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ALASKA DEPARTMENT OF FISH AND GAME

DIVISION OF COMMERCIAL FISHERIES

ANNUAL MANAGEMENT REPORT

-1974-

BRISTOL BAY AREA

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PREFACE

Fishery statistics contained in the 1974 Bristol Bay Annual Management Report supercede information in previous reports. All preliminary statistics are so listed, and unless otherwise noted all other data is to be considered final.

The press of other commitments, vacancies in the management staff, and lateness of receipt of the final 1974 catch and escapement data all precluded our efforts to compile a comprehensive report similar to the 1971 manuscript. However, various staff members did complete portions of their assignments, and rather than let that effort go wasted, the decision was made to include the information which had been compiled in the 1974 report.

The 1974 report is comprised of four major sections (see Table of Contents):

I. Section I includes an over-all descriptive narrative summary and account of management activities, procedures and accomplishments during the salmon season in 1974.

II. Section II (Appendix A) includes the preliminary season summary narrative and tables prepared for the Board of Fish and Game at the Ketchikan Board meeting. Some changes and additions were included from the original report. Data contained in this section is preliminary, unless otherwise noted.

III. Section III (Appendix B) includes many of the comparative data tables usually associated with our annual management reports. All data through 1973 is final, unless otherwise noted, while all 1974 statistics are listed as preliminary. If 1974 data is considered final, no notation will appear. Readers are referred to Appendix Tables C 9 and C 10 (Appendix C) for minor corrections to the Kvichak and Naknek River sockeye escapements for 1974, which were not included in appropriate Appendix B tables.

IV. Section IV (Appendix C) includes a summary of final catch and escapement statistics for 1974. Corrected sockeye escapements by day for Kvichak and Naknek Rivers are shown on Table C 9 and C 10.

Corrections or comments on the contents of this report should be directed to the area office at Dillingham, attention: Editor.

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ANNUAL MANAGEMENT REPORT

BRISTOL BAY AREA

-1974-

INTRODUCTION

Prompted by the forecast of an unusually low sockeye salmon run to Bristol Bay in 1974 there was a drastic change in management philosophy from that of previous years. The customary use of short"test" fishing periods was replaced by a complete closure of the inshore fishery until escapement goals were assured. The Board of Fish and Game's mandate to the Department, issued on December 6, 1973, read: "It is the desire of the Alaska Board of Fish and Game that salmon management of the Alaska Peninsula and Bristol Bay areas during the 1974 season be directed toward maximizing spawning escapements of sockeye salmon stocks of both areas".

The ultimate effects of this management policy were many: (1) registered fishing effort was down about 50% from previous levels; (2) processing capabilities were drastically reduced from prior years; (3) both the Port Moller offshore and inshore test fishing programs were curtailed (due partially to funding problems); and (4) the traditional communications and cooperation between the fishermen and fishery managers were upset by this change in management philosophy. It was recoganized that such a management policy involved a great deal of risk since it lacked any means to test the strength of the incoming run. On the other hand, most fishery managers felt that to risk early fishing would put unacceptable pressure on sockeye stocks that were expected not to equal escapement requirements.

Neither the Japanese high seas fishery nor the South Unimak fishery fore-told the possibility of a return larger than that expected. By early June it was evident that the Japanese high seas salmon fleet was honoring its informal agreement to reframe from fishing in areas where Bristol Bay sockeye were prevalent. High-seas sockeye catches remained at 40 to 50% of normal as the Japanese fleet searched for fish well west of their normal fishing grounds. The season-end catch of 275,000 mature sockeye salmon (Appendix Table B 3) was well below previous years, and the total catch of 532,000 immature and mature sockeye was the lowest since 1964 (Appendix Table B 2).

The South Unimak/Shumagin Island fishery was managed under a quota system in 1974 to keep catches of Bristol Bay sockeye at a minimum. A fishermen-industry price dispute in that area halted all planned fishing through June 23. The time period of June 24-30 falls within the time frame when the main body of migrant sockeye are passing through the False Pass area, so the outside cape fisheries (South Unimak/Shumagin Islands) were kept closed throughout June.

The South Unimak fishermen caught 65,000 sockeye, all in July, and slightly over the pre-established quota of 50,000; while the Shumagin Island fishermen took 40,000 sockeye, also over their quota of 25,000.

NAKNEK-KVICHAK DISTRICT

Very little fishing took place in this district prior to July 5. The fishermen-industry agreed on fish prices to be paid in 1974 on June 11. Prices were significantly higher than those of 1973 for all species and represented increases ranging from 33% for cohos to 67% for chums (see Appendix Table B 11).

District fishing boundaries remained the same throughout the season. Pre-season gear registration totaled 528 units, consisting of 315 drift nets and 213 set nets (Table A 3). Peak fishing effort (on July 7-13) was estimated at 296 units, or only 56% of that registered.

Through July 1 the Naknek River escapement had reached 447,000, or 56% of the escapement goal, and fishing time was anticipated in the Naknek section in the near future.

On July 1 residents of the village of South Naknek contacted the Governor in regards to the closure of the subsistence fishery in the Naknek River. In years where early season commercial fishing was conducted, villages along Naknek River obtained personal use fish when the commercial season was open. A visit to the village of South Naknek proved fruitful, in that, the people promised not to force a "fish-in" prior to July 6-7. They were informed that a Naknek section commercial opening was imminent, and that it would in all probability come before July 7 (ie: Naknek section was opened at 12 noon on July 5).

On July 3 all cannery operators were informed of the possibility of a fishing period in the near future in the Naknek section (as well as the Nushagak section of the Nushagak district).

The Naknek River escapement fell off on July 3 (118,000) from the previous 3 days (144,000, 129,000 and 145,000 on June 30, July 1 and 2, respectively). On July 3 the following general announcement was broadcast concerning the Naknek section: "Based on the rate of escapement into the Naknek River system for the past 2 days, we had expected to announce an opening for the Naknek section of the Naknek-Kvichak district. However, today's escapement rate has begun to drop, therefore, we will need to delay our planned opening for at least 1 day. By Thursday evening (July 4) we anticipate the Naknek escapement will be assured and a fishing period should be possible for Friday (July 5). An announcement will be issued at 6:00 p.m. Thursday, July 4 on whether a fishing period will be possible on Friday, July 5".

Also on July 3, Juneau-based personnel were convinced of the need to repeal the sliding gear-schedule (which limited fishermen to 25 fathoms of drift gear and 12-1/2 fathoms of set net gear) and of the need to waive the 48-hour waiting period for district transfers, when fishing was announced for any of the major districts. This emergency regulation was filed on July 3 and became effective (when needed) the following day.

By the afternoon of July 4, attainment of the Naknek River escapement goal of 800,000 was achieved, with over 845,000 fish counted past the tower. Consequently at 6:00 p.m. on July 4, a 24-hour fishing period was announced for the Naknek section of the Naknek-Kvichak district from 12 Noon July 5 to 12 Noon July 6 (Table A8). At the same time a second general announcement was made: "The 48-hour waiting period for district vessel transfers and transfers between types of gear and relocation of set net sites has been waived in all districts of Bristol Bay for the balance of the emergency order period. We will require notification of the intent to transfer and will assign transfer numbers, but the 48-hour waiting period will not be in affect. Further, the sliding gear schedule will not be in affect in the Naknek section for

the balance of the emergency order period. Drifter's will be allowed 150 fathoms per vessel and set netters 50 fathoms if legally licensed for these amounts".

With this announcement (and the Nushagak fishing announcement) a frenzy of fishermen descended on Bristol Bay in a frantic effort "to get into the water". The Commissioner of Fish and Game and the Limited Entry Commission allowed late vessel and gear licenses and entry permits to be issued due to the unusual circumstances. Sixty-five late commercial licenses were subsequently issued out of Department offices at Dillingham and King Salmon.

With attainment of the Naknek River sockeye escapement goal, the Naknek section was opened until further notice, after scale analysis of catch samples determined the interception of Kvichak fish was minimal. Prior to the first Naknek section opening on July 5 an "on-the-spot" contract was completed with a lighterage company to place fishing buoys to mark the open Naknek section from the Kvichak section, which remained closed to fishing.

The Kvichak River sockeye escapement was continuously monitored all season long; however, even though the season closure was extended 5 days by emergency order from 9:00 a.m. July 17 through 9:00 a.m. July 22, the final escapement of 4.4 million was over 1.5 million short of the 6.0 million fish escapement goal (Tables A1 & A5).

Most major canneries (in all districts of Bristol Bay) placed their fishermen on "limits" between July 4 and 9 due to the sudden and large "glut" of fish. Eight major processors provided tender service for their fishermen, in the Naknek-Kvichak district, transporting fish to Nushagak to be canned (Bumble Bee Seafoods; Peter Pan Seafoods/ New England Fish Co. and Queen Fisheries) or transporting fish outside of Bristol Bay for processing (Alaska Packers Assn.; Kenai Packers; Red Salmon Co.; and Whitney-Fidalgo Seafoods). Only two processors canned fish in this district, Nelbro Packing Co. during the peak of the season, and Kayak Packing Co. both prior to and after the peak canning period (Table A16).

EGEGIK DISTRICT

Fishing district boundaries remained unchanged throughout the season in this district. Pre-season gear registration totaled 166 units, consisting of 86 drift nets

and 80 set nets (Table A3). Peak effort was recorded on July 7-13 at 99 units, or about 60% of that registered.

Continued aerial surveillance from June 27 showed a gradual, slow build-up of fish in Egegik lagoon. Surveys flown on June 26, 27, 29, 30 and July 1 showed 17,000, 21,000, 45,000, 75,000 and 126,000 respectively. Through July 1 the aerial estimate of fish in the lagoon and the tower count totaled about 156,000, or 26% of the escapement goal of 600,000. Through July 3, the estimated escapement had reached 400,000 or 67% of the escapement goal (250,000 past the counting tower and 150,000 in Egegik lagoon). A final lagoon survey on July 4 again showed about 150,000 fish and it was apparent that fish were flushing into the lagoon at about the same rate they were moving on up past the counting tower (ie: about 50 - 80,000 fish per day). Estimated escapement as of mid-day July 4 was 500,000 sockeye. A fishing period was announced at 6:00 p.m. on July 4 for a 24-hour opening to begin at 12 Noon on July 5 (Table A8). As with the Naknek section opening the full compliment of fishing gear was allowed, as well as, unrestricted movement of gear into the district.

As the escapement goal was assured, the open fishing period announced for July 5-6, was extended until further notice on July 5 (Table A8). Considerable pressure did develop to extend the inside boundary of the district upriver to the Egegik River lagoon. The Department resisted this effort to assure the harvest of high quality fish. A similar upriver inner boundary extension in 1961 resulted in wastage of fish, as the quality was so poor that processors would not purchase them.

Processing capabilities in this district were severely limited, with all fish being shipped out of the district for processing (Table A16).

UGASHIK DISTRICT

The pre-season gear that registered for Ugashik district (20 drift units and 22 set nets) either did not plan to fish (which was the case with the majority of the set netters) or they transferred to another district in Bristol Bay after the early-season king salmon run was over (Table A3).

No fishing was allowed between June 27 and July 22. The season-long closure was extended 5 days from July 17 to 22 at the end of the emergency order period when it

became apparent that the run was extremely weak.

What few fish were processed in the district (Table A11), were flown out to the fresh-frozen market, while one processor operated a small glass hand-pack cannery (Table A16).

NUSHAGAK DISTRICT

No boundary changes were implemented during the season in the Nushagak district. Pre-season gear registration for this district amounted to 432 drift units and 187 set nets (619 total) (Table A3). Peak fishing effort was recorded on July 8-14 and amounted to 321 units, or 52% of the amount registered.

The king salmon harvest prior to commencement of the emergency field regulation period was approximately 26,000, or about on par with the long-term average of 24,000 (1958-73). Approximately 150 units of drift gear participated in the Nushagak king fishery through June 18.

An emergency order was issued on June 15 for a 24-hour period on June 17-18 with king gear only (Table A8). In addition, the sliding gear schedule regulation for Nushagak district, which was to become effective June 16 was delayed one week until June 23 to conform with the other major districts in Bristol Bay. The average king harvest through June 16 prompted the June 17-18 period, however, there was concern at this point in time about the possibility that the kings were early and that we were into the peak of the run.

The June 17-18 period proved disappointing with the catch amounting to only 400 fish (Table A12), which placed the current-year run in the same magnitude (low) as the return in 1972 and 73.

Through June 19 no significant king salmon escapement was evident, and as a result of the poor king escapement and expected poor sockeye run, the following general announcement was issued on June 21: "The king salmon escapement indices in Nushagak district indicates a minimal escapement to date. Run timing appears to be early this season and closure of the fishery is indicated to achieve minimal escapement goals. Recent checks of subsistence catches on Dillingham beaches, at the Lewis Point fish camps and upriver villages all indicate a relatively low king escapement. With the

fore-going in mind it is highly unlikely that additional fishing time will be allowed in Nushagak district. Further, fishing will be closed beginning next week (June 24) in all districts, with the exception of Togiak. The Department will continuously monitor red salmon escapements in these districts; however, it is unlikely that fishing time will be allowed during red season".

The Wood River sockeye escapement began to pick up dramatically on June 30 (110,000) and continued through July 2 (July 1 - 163,000 and July 2 - 271,000). With the strong showing through July 2, the Wood River escapement had reached 558,000 or 70% of the escapement goal of 800,000. By mid-afternoon of July 3, the daily Wood River escapement had risen to 174,000 bringing the total accumulative escapement to 732,000. Since the escapement goal was assured, a 24-hour fishing period was announced for July 4-5 for the Nushagak section of the Nushagak district (Table A8). As mentioned earlier the sliding gear schedule was repealed for this district as well as the 48-hour waiting period.

Aerial surveillance of Igushik River failed to show significant fish until a survey on July 4. Only 25,000 sockeye had passed the tower through mid-afternoon on July 3 or 17% of the escapement goal of 150,000; consequently, the Igushik section was kept closed. Another aerial survey of Igushik River on July 4 showed the first indication that significant fish were in the river. At this point the entire Nushagak district was opened to fishing from July 5 until further notice (Table A8).

Fishing remined on a continuous basis from 12 Noon July 5 through 9:00 a.m. July 20, when it closed for a regular 48-hour weekend closure (Table A8).

Prior to July 15, when small mesh pink salmon gear (4-1/2") became effective, pink catches had amounted to 25,000 in sockeye gear compared to the average of 8,000 indicating either a strong or early run (or both) (Table A12). About 300,000 pink salmon were harvested during the scheduled weekly fishing period on July 15-20 by 190 drift units and 53 set nets (Table A12). Through July 20 the district pink salmon harvest had reached 324,000, compared with the average of 379,000.

On July 19 all processors were informed that "some closure time was probable" for the week of July 22-27, which co-incided with the peak of the pink fishery. A 12-

hour fishing period was allowed on July 22-23, with a closure to extend through 9:00 a.m. July 25 (Table A8). Over 54,000 pinks were caught in the July 22-23 period, bringing the accumulative district catch of 378,000 (Table A12). The relatively poor pink catches during this period, coupled with an aerial survey on July 23 of pink escapement in Nushagak River of only 28,000, prompted a decision to close Nushagak district for the balance of the week (9:00 a.m. July 25 to 9:00 a.m. July 29) (Table A8).

Pink escapement through July 23 was 28,000 past the Nuyakuk River tower and 28,000 in the river's below Nuyakuk tower (56,000 total). Further, a "total estimated escapement" of 100 - 200,000 pinks was surmised including the Nuyakuk River tower, the aerial survey estimate of July 23 and a "rough estimate" of fish in muddy water above the fishery. Since the pink salmon escapement goal was 600,000, only about 1/5 to 1/3 of the desired escapement was accounted for.

Fishing was allowed to continue on a 5 day-per-week basis beginning July 29, when the pink salmon escapement showed a strong increase in late July (109,000 past Nuyakuk tower through July 29, and 260,000 accounted for on a August 1 aerial survey). The subsequent season-end pink escapement amounted to 580,000, with a commercial harvest of 402,000 (Table A7). The 1974 return per spawner of 16.6 pinks from the 1972 brood year escapement of 59,000 was the highest ever recorded (Table A7).

Three canneries operated in Nushagak district throughout the season, providing 10 operational canning lines (4 1-lb talls; 5 1/2 lb.; and 1 1/4 lb.). (Table A16).

The 1974 sockeye salmon run to the Wood River system amounted to about 2.1 million (Table A5). The rate of exploitation (17%) was about the lowest in the history of the fishery and the resulting escapement of 1.7 million was the largest since 1959. The large Wood River escapement, which was over twice the escapement goal, caused concern that over-crowding on the spawning grounds would reduce success of spawning.

Aerial surveys by Alaska Department of Fish and Game personnel detected no such over-crowding, and in fact the escapement was extremely well distributed throughout the entire lake system. The good distribution of spawners was confirmed by spawning distribution studies conducted by the Fisheries Research Institute of the University

of Washington. F.R.I. stated: "The abundance of spawners in creeks was above average; however, no extreme densities were observed as occurred in 1959 and the number of spawners was usually near the optimum for each creek as determined from spawner-return curves".

TOGIAK DISTRICT

With the expected closure in all major districts of Bristol Bay during the sockeye season, many processor's directed attention to the Togiak area. Although the expected total harvest of sockeye was low (Table A1), this district did offer, at least, the opportunity to obtain fish.

In addition to the two local operators, three additional major processors from Nushagak district sent fishermen to Togiak and provided tender service (Table A16).

The pre-season gear registration of 149 units matched closely the peak recorded effort on July 1 - 6 (Table A3). By June 27, a total of 66 additional vessels (42 boats and 24 skiffs) had transferred to Togiak, which brought the fishing fleet to about 170 units.

Early season sockeye catches through June 29 were 27% below average, and analysis of catch samples showed a major age group (.2 ocean) to be much reduced over that forecast. Since the .2 ocean age group accounted for 52% of the forecast, concern was expressed over the strength of the run. To compound the problem, additional drift effort (about 60-70 units) was present from other districts through July 2-3, at which time they began transferring back to Nushagak.

After an aerial survey of Togiak River on June 29 (which showed "few" fish), the Togiak and Kulukak sections were closed to fishing for 5 days between July 3-8 (Table A8).

The 2-day fishery allowed on July 1-3 produced a 29,000 sockeye catch, bringing the accumulative harvest of 44,000 fish, which was 30% below the long-term average by this date (Table A14). By July 8, the sockeye escapement past the Togiak River tower was 18,000, only 18% of the escapement goal of 100,000. An aerial survey the same day accounted for over 15,000 sockeye in Togiak River below the counting tower. This strong river showing prompted a decision to allow three days of fishing (July

9-12) rather than only two days as originally was intended (Tables A8 & A14).

Commercial catches in Togiak section during this three day period (July 9-12) were disappointing with only 23,000 sockeye harvested which brought the Togiak section season harvest to 67,000, still some 30% below the long-term average.

Through 12 Noon on July 14 the Togiak River escapement amounted to 43,000, 43% of the escapement goal. With the poor showing in the commercial fishery and declining rate into the river, the Togiak and Kulukak sections were closed to fishing from July 17 through July 22 when the escapement rate failed to pick up (Table A8).

The escapement rate failed to increase the following week, and as a result the Togiak section closure was extended from July 22 through July 29 (Table A8). At the time of the closure extension only 64% (64,000) sockeye had entered the escapement.

A river survey on July 22 accounted for over 17,000 sockeye, which was deemed adequate to push the Togiak River escapement into the lower range of the escapement goal; therefore, an emergency order superceding the previous order closing the fishery was issued allowing a fishery from 6:00 p.m. July 22 to 9:00 p.m. July 27 (Tables A8 & A14).

Final sockeye escapement in Togiak River and tributaries amounted to 103,000 (Table A5), while the Togiak section contributed 111,000 sockeye to the total district harvest of 139,000 (Table A14).

APPENDIX A

ALASKA DEPARTMENT OF FISH AND GAME

DIVISION OF COMMERCIAL FISHERIES

BRISTOL BAY AREA

1974

Management Report

to the

Board of Fish and Game

Ketchikan, Alaska
December, 1974

REPORT TO THE BOARD OF FISH AND GAME

BRISTOL BAY AREA

-1974-

INTRODUCTION

In 1974, Bristol Bay, which has historically produced the largest sockeye salmon runs in the world, was managed to "optimize sockeye escapements in all systems". This management philosophy was issued in a decree by the Board of Fish and Game to protect the 1974 sockeye return, when pre-season forecasts indicated only about 1/2 of the number of salmon needed for escapement purposes (9.5 million) were forecast to return (Table A1).

Consequently, the Department announced through the news media and Department news releases, that prospects for fishing time were "very unlikely", except for the Togiak district, where a minimal harvest was anticipated.

As a result of the Department's management strategy of optimizing escapements, many fishermen decided against active participation in the fishery. Table 2A gives the estimated actual effort by type of gear and shows that a significant reduction from previous effort levels did take place. Approximately 82% of this effort were residents. Additionally, total license registration for 1974 was significantly reduced over previous years: commercial fishing licenses were down 44% from the previous 11-year average; gear licenses were down 54% from the 11-year average; and vessel licenses were down 49% from average.

Because of the poor forecast and the Department's intention to "optimize escapements", many processor's decided against active participation or operated on a limited basis. Of the 13 canning operations normally in production, only 5 canneries processed fish, and all on a limited basis (ie: daily capacity was severely limited). Fresh-frozen and cured production was also somewhat limited in 1974 due primarily to poor market conditions for frozen salmon. Thus the ability of the packers to process fish, in the event of a return larger than that forecast, was drastically reduced.

1974 SALMON FISHERY

Unexpectedly, the 1974 sockeye salmon inshore return to Bristol Bay totaled 11.0 million fish or 220% higher than the pre-season forecast of 5.0 million (Table A1). The final escapement of 9.587 million was almost exactly equal to the pre-season escapement goals by river system of 9.515 million (Table A1). Escapement goals were not achieved in the important Kvichak River system or in the Ugashik system, while several systems, notably Wood and Egegik, exceeded the escapement goal by a wide margin. In all, escapement goals were achieved or exceeded in 6 of 11 systems in Bristol Bay, while the commercial sockeye catch of 1.417 million exceeded the pre-season estimated harvest of 197,000 by 719% (Table A1). The sockeye catch in 1974 was 83% below the previous 20-year average of 8.288 million (Table A5).

The commercial harvest of 45,300 king salmon in Bristol Bay was well below the recent 10-year average of 103,600 (Table A6). Coincidental with reduced king harvests in the Bay during the past two seasons, the high seas harvest of kings has risen to record highs.

The chum salmon harvest of 274,800 was also well below the long-term average of 491,500 as well as below the harvest of the past two years (Table A6).

Coho salmon are taken incidentally to other species in Bristol Bay except in the Togiak district where they are taken in moderate numbers. The 1974 coho harvest of 42,000 was about equal to the long-term average harvest of 39,600 (Table A6).

The pink salmon return to Bristol Bay was another bright spot in 1974. The pre-season forecast of 300 to 600,000 pinks to Nushagak district was exceeded by a wide margin, when the total return amounted to 982,000 (402,000 catch and 580,000 escapement), (Table A7). The escapement goal of 600,000 in the important Nushagak system was achieved, and hopes are for a good return from this escapement in 1976. The Naknek-Kvichak district pink return of 900,000 exceeded all previous recent year catch and escapement by a wide margin.

A resume' of catch, escapement and management decisions by fishing district follows:

NAKNEK-KVICHAK DISTRICT

Prior to the emergency order period (June 23), 1,600 sockeye were harvested incidentally with king salmon gear. The entire district remained closed to fishing from June 23 through 9 A.M. on July 5. By July 4, attainment of the sockeye escapement goal of 800,000 was assured in the Naknek River, subsequently, a 24-hour period was announced for the Naknek section only and was later extended until further notice.

Continuous surveillance of the Kvichak River sockeye escapement indicated a strong run, but at no time did the run show enough strength to allow a commercial harvest. To maximize the sockeye escapement the Kvichak section closure was extended 5 days from July 17 through 9 A.M. July 22. The Kvichak River final escapement of 4.433 million was over 1.5 million short of the escapement goal while both Branch and Naknek River escapement goals were either achieved or exceeded (Table A1).

Along with the Naknek section opening, the sliding gear schedule was dropped, which in effect allowed fishermen the full compliment of gear (le: drifters 150 fathoms and set netters 50 fathoms per license). The 48-hour waiting period for district transfers was also dropped allowing the fleet to move freely into and out of the Naknek area without lost fishing time.

Preliminary proration of the commercial harvest indicated that about 200,000 Kvichak River fish were caught during the Naknek section opening (Table A5). The total district sockeye catch of 602,800 was well below the 20-year average harvest of 5.5 million (Table A9).

Fishing effort was much reduced over previous years and at the peak of the fishery it was estimated that 200 units of drift gear and 80 units of set net gear were participating in the fishery; 60% of the fishing effort in this district were residents.

Commercial harvest of other species was much reduced over previous years, with the exception of the pink salmon catch (Table A9). Over 480,000 pinks were harvested, while the escapement was estimated at about 400,000. The pink harvest was the largest in the past 20-years and exceeded the district average harvest of 51,000 by a wide

margin (Table A9).

EGEGIK DISTRICT

The sockeye catch prior to the emergency order period in the Egegik district was minimal (4,100) (Table A10). Over 1,000 king salmon were harvested prior to the emergency order period, primarily by local residents.

By July 4 about 1/2 of the escapement goal of 600,000 fish were accounted for, with another 200,000 plus estimated below the counting tower in the Egegik lagoon and river. With the escapement goal assured, the district was opened for a 24-hour period on July 5 and subsequently extended until further notice. The sliding gear schedule, as well as the 48-hour waiting period, were both dropped effective July 5, allowing fishermen to transfer into Egegik and begin fishing immediately without the usual waiting period.

The total sockeye harvest at Egegik was severely restricted by lack of processing capacity. For a period of 4 days after the initial opening on July 5 fishermen did not have a buyer in the district. The number of salmon that could have been harvested during this period was estimated at 400,000 fish.

Peak fishing effort in the district was estimated at 60 drifters and 40 set netters, 162,000, well below the 20-year average catch of 1.2 million (Tables A5 & A10).

UGASHIK DISTRICT

This district remained closed to fishing throughout the emergency order period from June 23 to July 17. A short "king salmon gear only" period was held on June 26-27, which resulted in very few fish caught (Table A11). The district closure was extended 5 days through 9 A.M. July 22 to maximize the sockeye escapement into the Ugashik Lake system. The season-end escapement amounted to 61,900 sockeye (Table A5).

The incidental season catch of sockeye amounted to over 2,000 fish, while catches of other species were limited (Table A6).

Fishing effort varied, but at no time were there more than 10 to 12 drift boats fishing in this area.

The incidental sockeye catch in this district was considerably below the 20-year

average harvest of 442,900 (Table A11).

NUSHAGAK DISTRICT

The Nushagak district remained closed to fishing from June 19 until July 4 when the Nushagak section of the Nushagak district was opened for 24 hours, when it became apparent that the Wood River escapement goal was assured. Subsequently, 24 hours later the entire district was opened until further notice when a aerial survey of the Igushik River system indicated that this system would also achieve the escapement goal (Table A1).

Escapement goals were achieved in the important Wood (1.709 million) and Igushik (.359 million) River systems, and fell short in the Nuyakuk, Snake and Nushagak-Mulchatna systems (Table A1).

The commercial sockeye harvest of 511,700 was shared by approximately 230 drift units and 70 set netters, 80% of which were resident. The sockeye harvest in Nushagak in 1974 of 511,700 was below the 20-year long-term average of 971,400 (Table A12).

The commercial harvest of 31,900 kings, 154,100 chums, 402,400 pinks and 12,900 coho salmon augmented the low sockeye catch (Table A12). The king salmon harvest of 31,900 fish was well below the 20-year average catch of 68,400, while the chum salmon catch of 154,100 was also below the 20-year average harvest of 243,100. The pink salmon catch of 402,400 fish was about 1/2 of the long-term average, although the total run itself was double of the expected return to the system.

As in the Naknek and Egegik areas, the full compliment of fishing gear was allowed beginning July 4, and district transfers were allowed without the usual 48-hour waiting period.

TOGIAK DISTRICT

The Togiak district was the only area with an indicated pre-season harvest after escapement requirements were met (Table A1). The sockeye run did not materilize as expected but numerous adjustments in fishing time and area fished resulted in a good harvest (138,000) as well as the Department obtaining the escapement goal (103,500) (Tables A1 and A5).

Catches of other species 10,600 kings, 79,300 chums, 13,100 pinks and 24,900 coho assured the fishermen of Togiak a good season, (Table A14). Estimated peak fishing effort was about 135 drift units, all of which were residents.

HERRING FISHERY

Four operators participated in the 1974 herring fishery in the Togiak district. The total herring catch by all operators amounted to 246,300 pounds, which was the second highest harvest since the inception of this fishery in 1967 (Table A15).

Harvest of herring roe-on-kelp amounted to 125,600 pounds and was the highest harvest since this fishery began in 1968 (Table A15).

Additional information on the Bristol Bay herring fishery can be found in the State-wide Herring Report to the Board. (See pages 40 and 41).

SUBSISTENCE FISHING

Subsistence fishing activities played an important role in many areas of Bristol Bay in 1974. With early season commercial closures in most districts, subsistence usage of salmon resources was unusually high (ie: Nushagak-Togiak subsistence catches showed a 47% increase over the harvest in 1973).

Several problem areas surfaced during the course of the long early-season commercial closure. Subsistence fishermen in the Naknek, Egegik, and Ugashik Rivers are prohibited by regulation from fishing for subsistence purposes during the emergency order period from June 23 to July 17. With the early season commercial closures in these areas, many families found it impossible to obtain fish for subsistence use.

The staff has submitted a proposal to the Board this session which will allow a two-day per week subsistence season during the emergency order period for the Naknek, Egegik, and Ugashik Rivers. This proposal was patterned after the successful Nushagak weekly subsistence season passed by the Board last December.

SNAKE RIVER REHABILITATION

The Snake River rehabilitation project, which is a continuing program initiated in 1973 to produce high quality sockeye salmon fry to supplement natural production, was continued in 1974.

The Division of Commercial Fisheries involvement in this program has been the responsibility for field operations at the lake outlet. This portion of the program includes adult sockeye escapement and sampling (also commercial catch sampling), downstream smolt migrant enumeration and sampling, and associated spawning ground studies, including distribution on spawning grounds, tagging recovery and location and other studies in conjunction with F.R.E.D. Division.

Enumeration of adult salmon through the weir continued from mid-May until late October. Over 15,200 sockeye salmon were enumerated into the lake system, as well as small numbers of other species (kings, chums etc.). This season's escapement was well above the 900 plus sockeye escapement of 1973, and slightly below the 20-year average escapement of 17,200.

Daily sampling of sockeye throughout the season indicated that the age composition of the return did not deviate from previous averages.

Preliminary analysis of downstream smolt migrants again indicated, as in 1973, that over 95% of all smolt sampled had spent only one winter in freshwater.

Additional basic biological data was gathered and will be reported in the annual "Field Operations Report".

Table A1.

Comparison of 1974 Bristol Bay sockeye salmon forecast with actual inshore run (thousands of fish).

River System	Escapement			Harvest			Inshore Run		
	Goal 1/	Actual	% of Goal	Forecast 1/	Actual	% of Forecast	Forecast 1/	Actual	% of Forecast
Kvichak	6,000	4,433	74%	0	201	--	3,029	4,635	153%
Branch 2/	185	215	116%	0	3	--	45	218	484%
Naknek	800	1,241	155%	0	399	--	647	1,640	254%
Naknek-Kvichak	6,985	5,889	84%	0	603	--	3,721	6,492	175%
Egegik	600	1,276	213%	0	162	--	169	1,438	851%
Ugashik 3/	500	62	12%	0	2	--	90	64	71%
Wood	800	1,709	214%	0	359	--	399	2,068	518%
Igushik	150	359	239%	0	53	--	73	412	564%
Nuyakuk 2/	250	155	62%	0	69	--	158	224	142%
Nush.-Mulch. 2/	80	19	24%	0	22	--	61	41	67%
Snake 2/	50	15	30%	0	8	--	36	23	64%
Nushagak	1,330	2,256	170%	0	512	--	727	2,768	381%
Togiak 4/	100	103	103%	197	139	71%	297	242	82%
Total Bristol Bay	9,515	9,587	101%	197	1,417	719%	5,004	11,004	220%

1/ Final Bristol Bay red salmon forecast of run for 1974 by R. D. Paulus.
2/ These systems cannot be managed separately from the major systems in their districts. Consequently, the harvest rates are merely the harvest rates anticipated for the major system in the district; the corresponding escapement goals do not necessarily coincide with the escapement levels which would be achieved if these systems could be managed independently.
3/ Excluding Mother Goose system red salmon run.
4/ Excluding red salmon runs to the Togiak tributaries and Kulukak system.

TABLE A2. Estimated actual effort by type, Bristol Bay, 1952-74/

Year	Type of Gear and Average Fathoms Fished				
	Drift	Fathoms/Boat	Set	Fathoms/Net	Total
1952	1,118	150	463	50	1,581
53	1,170	150	375	50	1,545
54	712	150	313	50	1,025
55	899	150	332	50	1,231
56	665	150	266	50	931
1957	1,143	150	239	50	1,382
58	1,457	150	218	50	1,675
59	737	150	102	50	839
60	911	150	244	50	1,155
61	1,146	150	309	50	1,455
1962	965	150	414	50	1,379
63	1,192	150	493	50	1,685
64	1,342	150	464	50	1,806
65	1,395	150	582	50	1,977
66	1,715	150	549	50	2,264
1967	1,555	150	439	50	1,994
68	1,237	75	493	25	1,730
69	1,633	125	511	50	2,144
70	1,674	150	623	50	2,297
71	1,710	150	421	50	2,131
1972	1,467	150	490	50	1,957
73	953	Variable	542	Variable	1,495
74	659	Variable	214	Variable	873
1952-71 (20 Yr. Av.)	1,364		449		1,813
1952-61 (10 Yr. Av.)	996		286		1,282
1962-71 (10 Yr. Av.)	1,442		499		1,282

1/ Source: 1952-59: U.S.F.&W.S. Agent Report
1960-73: IBM Catch Summaries
1974: Peak Period estimates.

TABLE A3. Bristol Bay post-season gear registration by district and type of gear, 1974 1/

District	Type of Gear		
	Drift	Set	Total
Naknek-Kvichak			
Resident	192	206	398
Non-Resident	123	7	130
Total	315	213	528
Egegik			
Resident	54	57	111
Non-Resident	32	23	55
Total	86	80	166
Ugashik			
Resident	20	22	42
Non-Resident	0	0	0
Total	20	22	42
Nushagak			
Resident	366	171	537
Non-Resident	66	16	82
Total	432	187	619
Togiak			
Resident	110	38	148
Non-Resident	1	0	1
Total	111	38	149
Total Bristol Bay			
Resident	742	494	1,236
Non-Resident	222	46	268
Total	964	540	1,504

1/ Based upon gear license count - registration at end of season - does not incorporate district transfers.

TABLE A4. Bristol Bay post season vessel registration by district, keel length, and residency status, 1974.

District	Keel Length			
	To 25 Ft.	26-29 Ft.	30-32 Ft.	Total
Naknek-Kvichak				
Resident	58	31	110	199
Non-resident	6	31	90	127
Total	64	62	200	326
Egegik				
Resident	35	7	10	52
Non-resident	14	3	16	33
Total	49	10	26	85
Ugashik				
Resident	12	6	5	23
Non-resident	0	1	0	1
Total	12	7	5	24
Nushagak				
Resident	103	45	190	338
Non-resident	19	7	45	71
Total	122	52	235	409
Togiak				
Resident	92	6	4	102
Non-resident	2	0	0	2
Total	94	6	4	104
Bristol Bay				
Resident	300	95	319	714
Non-resident	41	42	151	234
Total	341	137	470	948

TABLE A5. Preliminary Bristol Bay sockeye salmon catch and escapement, 1974.[1/]

District and River System	Catch	Escapement	Total Run
NAKNEK-KVICHAK DISTRICT			
Kvichak River	201,155	4,433,480	4,634,635
Branch River	2,996	214,848	217,844
Naknek River	398,670	1,241,066	1,639,736
Total	602,821	5,889,394	6,492,215
EGEGIK DISTRICT	161,986	1,275,630	1,437,616
UGASHIK DISTRICT	2,255	61,854	64,109
NUSHAGAK DISTRICT			
Wood River	359,387	1,708,836	2,068,223
Igushik River	53,468	358,752	412,220
Nuyakuk River	69,329	154,614	223,943
Snake River	7,880	15,266	23,146
Nush/Mulchatna	21,592	19,018	40,610
Total	511,656	2,256,486	2,768,142
TOGIAK DISTRICT			
Togiak River		82,992	
Togiak Tributaries		15,600	
Kulukak System		4,900	
Total	138,636	103,492	242,128
TOTAL BRISTOL BAY	1,417,354	9,586,856	11,004,210

-Bristol Bay Comparative Summary-

Time	Catch	Escapement	Total Run
1952-71 (20 Yr. Av.)	8,287,691	8,871,919	17,159,610
1952-61 (10 Yr. Av.)	7,494,904	7,666,587	15,161,491
1962-71 (10 Yr. Av.)	9,080,478	10,077,252	19,157,730
1972	2,392,575	2,984,118	5,376,693
1973	766,930	1,682,593	2,439,272
1974	1,417,354	9,586,856	11,004,210

1/ Final escapement data. However, apportionment of inshore catch by river system is preliminary.

TABLE A6. Preliminary Bristol Bay commercial catch by district and species, 1974.[1/]

District and River System	Catch by Species					
	Reds	Kings	Chums	Pinks	Cohos	Total
NAKNEK-KVICHAK						
Kvichak River	201,155					
Branch River	2,996					
Naknek River	398,670					
Total	602,821	506	34,784	482,621	555	1,121,287
EGEGIK	161,986	1,095	3,841	5,011	1,036	172,969
UGASHIK	2,255	1,190	2,853	437	2,627	9,362
NUSHAGAK						
Wood River	359,387					
Igushik River	53,468					
Snake River	7,880					
Nuyakuk River	69,329					
Nush-Mul. Sys.	21,592					
Total	511,656	31,872	154,074	402,416	12,896	1,112,914
TOGIAK	138,636	10,591	79,271	13,059	24,855	266,412
Total	1,417,354	45,254	274,823	903,544	41,969	2,682,944
Species Percent	52.84	1.69	10.25	33.69	1.53	100.00

1/ Apportionment of red salmon catch by river system to the Naknek-Kvichak and Nushagak districts is preliminary.

Summary of Bristol Bay average commercial catch by species and period 1952-1974.

Period	Reds	Kings	Chums	Pinks[1/]	Cohos
1952-71 (20 Yr. Av.)	8,287,691	92,908	491,487	899,576	39,561
1952-61 (10 Yr. Av.)	7,494,904	77,251	470,795	329,331	37,633
1962-71 (10 Yr. Av.)	9,080,478	108,564	512,180	1,469,820	41,488
1972	2,412,395	68,710	625,413	123,976	14,119
1973	760,326	44,013	683,767	962	57,684
1974	1,417,354	45,254	274,823	903,544	40,969

1/ Includes even years only.

TABLE A7. Nushagak district pink salmon commercial catch, escapement and escapement-return relationship, 1958-74.

CATCH-ESCAPEMENT
(In thousands)

Year	Catch	Escapement	Total Run
1958	1,114	2,500[1/]	3,614
1960	290	146	436
1962	880	543	1,423
1964	1,498	911	2,409
1966	2,337	1,442	3,779
1968	1,705	2,161	3,866
1970	418	153	571
1972	68	59	127
1974	402	580	982
Mean Avg.	968	944	1,912

ESCAPEMENT-RETURN
(In thousands)

Brood Year	Escapement	2-Year Return	Return/Spawner
1958	2,500[1/]	436	.2
1960	146	1,423	9.7
1962	543	2,409	4.4
1964	911	3,779	4.1
1966	1,442	3,866	2.7
1968	2,161	571	.3
1970	153	127	.8
1972	59	982	16.6
1974	580	-	-
Mean Avg.	944	1,699	(4.9)

1/ Escapement estimated by aerial survey to be from 2.5 to 4.0 million. Tower counts began in 1960.

TABLE A8. Bristol Bay emergency order fishing periods by district, 1974.[1/]

NAKNEK-KVICHAK DISTRICT

E.O. No.	Date and Time	Hours Open
	Naknek Section Only	
6	July 5 Noon - July 6 Noon	24
7	July 6 Noon - Until further notice (July 20 9am)	333
	Kvichak Section Only	
10	July 17 9am - July 22 9am	120[5/]

EGEGIK DISTRICT

E.O. No.	Date and Time	Hours Open
6	July 5 Noon - July 6 Noon	24
7	July 6 Noon - Until further notice (July 20 9am)	333

UGASHIK DISTRICT

E.O. No.	Date and Time	Hours Open
3[3/]	June 26 4pm - June 27 4am	12
10	July 17 9am - July 22 9am	120[5/]

TOGIAK DISTRICT[2/]

Togiak River-Kulukak Sections

E.O. No.	Date and Time	Hours Closed
4	July 3 9am - July 8 9am	120
8	July 8 9am - July 9 9am	24
9	July 15 9am - July 17 9am	48
	Togiak Section Only	
10	July 17 9am - July 22 9am	120
11	July 22 9am - July 29 9am	168
12	July 22 6pm - July 27 9pm	123[6/]

NUSHAGAK DISTRICT

E.O. No.	Date and Time	Hours Open
2	June 17 9am - June 18 9am	24
6	July 5 Noon - Until further notice (July 20 9am)	357
11	July 22 9am - July 22 3pm	6[5/]
11	July 23 3am - July 25 9am	54[5/]
13	July 25 9am - July 29 9am	96[5/]
	Nushagak Section Only	
5[4/]	July 4 Noon - July 5 Noon	24

1/ Emergency order period: Naknek-Kvichak, Egegik and Ugashik districts - 9 am June 23 to 9 am July 17; Nushagak district - 9 am June 16 to 9 am July 17.

2/ Togiak River section open 9 am Monday to 9 am Friday while Osviak, Matogak, Cape Pierce and Kulukak sections are open 9 am Monday to 9 am Saturday.

3/ Fishing permitted with a net mesh size of not less than 6-3/4".

4/ Also permitted a waiver of 48 hr. waiting period in all districts of Bristol Bay for district vessel transfers, transfer between type of gear, and relocation of set net sites. Sliding gear scale no longer in effect in Nushagak district for the duration of the emergency order period.

5/ Closed to fishing 6/ Open to fishing

TABLE A9. Preliminary Naknek-Kvichak district commercial catch by species and period, 1974.

Period	Time	Catch by Species					Total
		Reds	Kings	Chums	Pinks	Cohos	
> 6/8							0
6/10-15	5 days	6	50				56
6/17-22	5 days	1,546	171	56			1,773
7/ 5- 6[1/]	36 hrs.	187,161	19	1,607			188,787
7/ 7-13[1/]	7 days	379,559	67	5,393	128		385,147
7/14-20[1/]	6 days, 9 hrs.	23,015	60	1,888	15,204		40,167
7/22-27	5 days	8,903	123	20,533	181,356	113	211,028
7/29-8/3	5 days	2,559	10	4,129	260,234	109	267,041
8/ 5-10	5 days	72	6	1,151	25,444	297	26,970
8/12-17	5 days			27	255	36	318
Total		602,821	506	34,784	482,621	555	1,121,287
Percent of District Catch		53.76	.05	3.10	43.04	.05	100.00

1/ Naknek section only.

Summary of Naknek-Kvichak district average commercial catch by species and time period, 1952-1974.

Period	Reds	Kings	Chums	Pinks[1/]	Cohos
1952-71 (20 Yr. Av.)	5,530,375	10,355	118,492	50,978	1,798
1952-61 (10 Yr. Av.)	4,871,717	10,700	142,930	7,792	770
1962-71 (10 Yr. Av.)	6,189,033	10,009	94,054	94,163	2,827
1972	1,101,880	2,271	115,701	56,637	141
1973	168,298	951	122,328	-	253
1974	602,821	506	34,784	482,621	555

1/ Includes even years only.

TABLE A10. Preliminary Egegik district commercial catch by species and period, 1974.

Period	Time	Catch by Species					Total
		Reds	Kings	Chums	Pinks	Cohos	
> 6/8	-	1	85				86
6/10-15	5 days	155	229	5			389
6/17-22	5 days	3,920	770	174			4,864
7/ 5- 6	36 hrs.	61,854		454			62,308
7/ 7-13	7 days	82,308	8	1,810			84,126
7/14-20	6 days, 9 hrs.	12,131		971	588		13,690
7/22-27	5 days	1,351	1	290	3,163	134	4,939
7/29-8/3	5 days	266	2	112	1,260	522	2,162
8/ 5-10	5 days			25		32	57
8/12-17	5 days					61	61
8/19-24	5 days					83	83
8/26-31	5 days					204	204
Total		161,986	1,095	3,841	5,011	1,036	172,969
Percent of District Catch		93.65	.63	2.22	2.90	.60	100.00

Summary of Egegik district average commercial catch by species and time period, 1952-1974.

Period	Reds	Kings	Chums	Pinks[1/]	Cohos
1952-71 (20 Yr. Av.)	1,227,042	2,983	26,600	141	3,134
1952-61 (10 Yr. Av.)	1,147,972	3,285	32,139	99	3,324
1962-71 (10 Yr. Av.)	1,306,112	2,682	21,062	182	2,944
1972	834,166	1,026	42,056	3	1,249
1973	220,344	1,475	24,121	-	2,690
1974	161,986	1,095	3,841	5,011	1,036

1/ Includes even years only.

TABLE A11. Preliminary Ugashik district commercial catch by species and period, 1974.

Period	Time	Catch by Species					
		Reds	Kings	Chums	Pinks	Cohos	Total
> 6/8	-		57				57
6/10-15	5 days		415				415
6/17-22	5 days	26	666				692
6/26-27	12 hrs.	76	41	8			125
7/22-27	5 days	1,607	4	880	47	20	2,558
7/29-8/3	5 days	392	3	1,087	257	309	2,048
8/ 5-10	5 days	147	4	668	124	484	1,427
8/12-17	5 days	7		204	8	776	995
8/19-24	5 days			6	1	387	394
8/26-31	5 days					465	465
9/ 2- 7	5 days					138	138
9/ 9-13	5 days					48	48
Total		2,255	1,190	2,853	437	2,627	9,362
Percent of District Catch		24.09	12.71	30.47	4.67	28.06	100.00

Summary of Ugashik district average commercial catch by species and time period, 1952-74.

Period	Reds	Kings	Chums	Pinks 1/	Cohos
1952-71 (20 Yr. Av.)	442,904	2,207	22,015	103	1,800
1952-61 (10 Yr. Av.)	493,666	2,040	26,674	200	794
1962-71 (10 Yr. Av.)	392,143	2,373	17,355	6	2,085
1972	17,426	166	9,689	0	0
1973	3,763	292	6,830	-	1,680
1974	2,255	1,190	2,853	437	2,627

1/ Includes even years only.

TABLE A12. Preliminary Nushagak district commercial catch by species and period, 1974.

Period	Time	Catch by Species					
		Reds	Kings	Chums	Pinks	Cohos	Total
5/27-6/1	5 days		404				404
6/ 3- 8	5 days		3,868				3,868
6/10-15	5 days	205	21,346	219			21,770
6/17-18	24 hrs.	261	426	27			714
7/ 4- 7[1/]	3 days	218,850	3,117	67,422	379	5	289,773
7/ 8-14	7 days	258,164	2,010	65,902	24,260	19	350,355
7/15-20	5 days	31,934	666	18,298	299,326	823	351,047
7/22-23	12 hrs.	1,493	16	1,390	54,410	402	57,711
7/29-8/3	5 days	663	16	717	22,931	5,600	
8/ 5-10	5 days	86	3	97	1,073	5,636	6,895
8/12-17	5 days			2	37	411	450
Total		511,656	31,872	154,074	402,416	12,896	1,112,914
Percent of District Catch		45.98	2.86	13.84	36.16	1.16	100.00

1/ Igushik section closed first 24 hours of this period, then was opened to fishing until further notice.

Summary of Nushagak district average commercial catch by species and time period, 1952-74.

Period	Reds	Kings	Chums	Pinks[1/]	Cohos
1952-71 (20 Yr. Av.)	971,416	68,393	243,141	843,938	27,640
1952-61 (10 Yr. Av.)	911,375	58,233	210,859	320,218	32,404
1962-71 (10 Yr. Av.)	1,031,458	78,552	275,424	1,367,658	22,876
1972	383,432	46,119	307,289	67,953	3,652
1973	270,485	30,363	336,058	-	28,703
1974	511,656	31,872	154,074	402,416	12,896

1/ Includes even years only.

TABLE A13. Commercial catch of sockeye salmon by period from Ekuk Beach and Igushik Beach, Nushagak District, 1974.

Period	Hours	Sockeye Salmon Catch by Period	
		Ekuk Beach[1/]	Igushik Beach[2/]
6/10-6/15	5 days	1	168
6/17-6/18	24 hours	6	205
7/04-7/07[3/]	3 days	34,151	4,097
7/08-7/14	7 days	56,277	14,838
7/15-7/20	5 days	8,872	2,008
7/22-7/23	12 hours	568	
7/29-8/03	5 days	516	
8/05-8/10	5 days	62	
Totals		100,453	21,316

1/ Approximate fishing effort was 44 set nets. Sockeye salmon accounted for 76% of the total catch; catches of other species included 118 kings, 1,737 chums, 25,943 pinks and 4,534 cohos.

2/ Approximate fishing effort was 35 set nets and 21 drift skiffs. Sockeye salmon accounted for 99% of the total catch; catches of other species included 80 kings, 48 chums, 85 pinks and 0 cohos.

3/ Igushik section closed first 24 hours of this period, then was opened until further notice.

TABLE A14. Preliminary Togiak district commercial catch by species and period, 1974.

Period[1]	Time	Catch by Species					
		Reds	Kings	Chums	Pinks	Cohos	Total
6/10-15	5 days	247	647	90			984
6/17-22	5 days	2,823	2,898	852	10		6,583
6/24-29	5 days	19,778	2,443	6,769	444		30,434
7/ 1- 6[2]	5 days	36,025	1,605	15,284	1,130		54,044
7/ 8-13[3]	5 days	24,279	1,592	13,652	1,064	1	40,588
7/15-20[4]	5 days	8,498	105	7,573	968	1	17,145
7/22-27[5]	5 days	29,271	178	22,634	6,764	14	58,861
7/29-8/3	5 days	11,193	94	7,939	2,329	74	21,629
8/ 5-10	5 days	4,421	17	2,957	250	1,051	8,696
8/12-17	5 days	1,544	7	1,337	74	2,865	5,827
8/19-24	5 days	413	2	116	17	5,881	6,429
8/26-31	5 days	132	3	58	9	11,006	11,208
9/ 2- 7	5 days	12		10		3,962	3,984
Total		138,636	10,591	79,271	13,059	24,855	266,412
Percent of District Catch		52.03	3.98	29.76	4.90	9.33	100.00

1/ Togiak River section open 4-days-per-week, while Osviak, Matogak, Cape Pierce and Kulukak sections open 5-days-per-week.
2/ Togiak River section open 2 days this week.
3/ Togiak River section open 3 days this week.
4/ Togiak River section closed this week.
5/ Togiak River section open 5 days this week.

Summary of Togiak district average commercial catch by species and time period, 1954-1974.

Period	Reds	Kings[1]	Chums	Pinks[2]	Cohos
1954-71 (18 Yr. Av.)	128,838	9,967	90,265	4,907	5,766
1954-61 (8 Yr. Av.)	87,719	4,274	72,741	1,277	427
1962-71 (10 Yr. Av.)	161,733	14,948	104,285	7,811	10,036
1972	75,491	19,539	178,885	1,984	8,652
1973	95,229	10,783	194,201	-	22,943
1974	138,636	10,591	79,271	13,059	24,855

1/ 1955-71 only.
2/ Includes even years only, 1954-70.

TABLE A15. Bristol Bay commercial herring catch and herring roe-on-kelp production, 1967-74.[1/]

Year	Number Operators	Number Fishermen	Number Deliveries	Catch and Production in Pounds
		HERRING[2/]		
1967	1	27	100	268,902
68	2	37	130	181,765
69	2	23	40	94,481
70	3	17	27	55,195
1971	-	-	-	-
72	1	18	36	162,434
73	2	26	47	102,147
74	3	11	17	246,256
Totals	14	159	397	1,111,180
Average	2	23	57	158,740
		HERRING ROE-ON-KELP[3/]		
1968	1	1	6	54,600
69	1	3	20	10,125
70	1	5	23	38,855
71	1	12	43	51,795
1972	1	12	32	64,165
73	1	10	11	11,596
74	3	26	49	125,646
Totals	9	69	184	356,782
Average	1	10	26	50,969

1/ All herring and kelp harvest and production has originated in the Togiak district.

2/ Catch not entirely comparable, as harvest prior to 1973 reflects females only, as most males were discarded and not weighed. The 1973/74 harvests includes both sexes.

3/ Harvest of roe-on-kelp has been limited to rockweed kelp (*Fucus furcatus*).

TABLE A16. Bristol Bay fishery operators by district, 1974.[1/]

Name of Operator	Location	No. of Lines[2/] A	O	Size	Comments
	NAKNEK-KVICHAK DISTRICT				
Alaska-Far East Corporation Trans-Asiatic, Inc. (Buyer) 250 - 200 W. Thomas Bldg. Seattle, Washington 98119	Kvichak Bay "C.B.I"	None			Fresh salmon
Alaska Packers Association Box AA Blain, Washington 98230	South Naknek	3 2	0 0	1 lb. tall ½ lb. flat	Not in operation
Bumble Bee Seafoods P.O. Box 60 Astoria, Oregon 97103	South Naknek	3 2	0 0	1 lb. tall ½ lb. flat	Not in operation
Columbia Wards Fisheries Box 30 University Station Seattle, Washington 98105	(Ekuk)	None			Provided tender service for fisherme
Kayak Packing Company 2366 Eastlake East Seattle, Washington 98105	Naknek River M/V "Kayak"	1 1	1 1	1 lb. tall ½ lb. flat	Fresh & canned salmo & salmon roe. Custo canning done at Nelt Packing Co.
Kenai Packers 1455 N. Northlake Place Seattle, Washington 98103	South Naknek	None			Operated as fish car only. Provided tender service for fishermen.
Marubeni American Corporation 4001 Sea First Building Seattle, Washington 98154	Naknek River (Kayak Packing)	None			Salmon roe
New England Fish Co. Pier 89 Seattle, Washington 98119	Peterson Point	3 2	0 0	1 lb. tall ½ lb. flat	Operated as fish car only. No tender service provided.
Nelbro Packing Company 657 N.E. Northlake Way Seattle, Washington, 98105	Naknek	2 2	1 1	1 lb. tall ½ lb. tall	Operated as fish car only. Provided sho tender, & custom canning services fo Kayak Packing Co. during peak of seas
Peter Pan Seafoods 1220 Dexter Horton Building Seattle, Washington 98105	South Naknek (Warren) Naknek (Nornak)	None			Operated as fish ca only. Tender servi provided and fish canned at Dillingha plant.

(continued)

TABLE A16. (continued)

Name of Operator	Location	No. of Lines A	No. of Lines O	Size	Comments
Queen Fisheries, Inc. Bldg. C-3, Fishermen's Terminal Seattle, Washington 98119	(Clarks Slough Nushagak Bay)	None			Provided tender service for fisherm
Red Salmon Co. P.O. Box 30 University Station Seattle, Washington 98105	Naknek	None			Operated as fish car only. Provided ten service. Fish canne at CWF, Ekuk plant & in Kodiak.
Surfline Seafoods Box 262 South Naknek, Alaska 99633	South Naknek	None			Salted salmon.
Theodore Seafoods, Inc. 525 3rd. Ave. Suite 211 Anchorage, Alaska 99501	Floater (M/V "Teddy")	None			Frozen salmon & salmon roe.
Traco, Inc. 1836 Westlake Ave. N Seattle, Washington 98109	Kvichak Bay M/V "Bobby" (freezer)	None			Fresh & frozen salm and salmon roe.
Whitney-Fidalgo Seafoods 2360 W. Commodore Way Seattle, Washington 98199	Naknek	2	0	1 lb. tall	Fresh salmon airlift ed to Anchorage for canning. Provided tender service for other companies.
	EGEGIK DISTRICT				
Alaska Packers Association	S. Egegik	3	0	1 lb. tall	Not in operation.
Columbia Wards Fisheries	N. Egegik	None			Not in operation.
Egegik Enterprises Box 21 Egegik, Alaska 99579	S. Egegik	None			Fresh salmon and salmon roe.
Grindle Saltery P.O. Box 43 Egegik, Alaska 99579	Coffee Point	None			Salted salmon Herring sac roe
Jack McMahon Traco Inc. (Buyer) 3504 Spenard Road Anchorage, Alaska 99503	Coffee Point	None			Fresh salmon and salmon roe.
New England Fish Company	S. Egegik	1 1	0 0	1 lb. tall ½ lb. flat	Operated as fish can only. Provided limi ed tender service fo fishermen.

(continued)

TABLE A16. (continued)

Name of Operator	Location	No. of Lines A	No. of Lines O	Size	Comments
Pan Alaska Fisheries Box 647 Monroe, Washington 98272	Outer Egegik District M/V "Royal Alaskan" (freezer)	None			Frozen salmon
Kayak Packing Company	(Naknek) M/V "Kayak"	1 1	1 1	1 lb. tall ½ lb. flat	Provided tender service for fishermen.
	UGASHIK DISTRICT				
Alaska Packers Association	Pilot Point	None			Operated as fish ca only.
Briggs Way Co. Ugashik, Alaska 99683	Ugashik Village	1	1	½ lb. glass	Canned salmon.
John Christiansen & Sons Port Heiden, Alaska	Pilot Point	None			Fresh salmon.
Peter B. Hansen Pilot Point, Alaska 99683	Pilot Point	None			Salted salmon.
Shannigan Fisheries General Delivery Ugashik, Alaska 99683	Ugashik Village	None			Fresh salmon
Tenth & M. Lockers 1020 M. Street Anchorage, Alaska 99501	(Anchorage)	None			Fresh salmon
	NUSHAGAK DISTRICT				
Alaska Packers Association	Clarks Point	None			Operated as a fish camp only. In consolidation with CWF - Ekuk
Columbia Wards Fisheries, Inc.	Ekuk M/V "Double Star" (freezer)	3 1	2 1	1 lb. tall ½ lb. flat	Cannd & frozen salm Salmon roe.
New England Fish Co.	Dillingham	None			Operate in consolidation with Peter P Seafoods, Dillingha
Peter Pan Seafoods, Inc.	Dillingham	2 2	1 2	1 lb. tall ½ lb. flat	Canned & fresh salm Salmon roe.
Queen Fisheries, Inc.	Clarks Slough	1 2 1	1 2 1	1 lb. tall ½ lb. flat ¼ lb. flat	Canned salmon and salmon roe.
Traco, Inc.	Nushagak Bay M/V "Bobby" (freezer)	None			Fresh salmon and salmon roe.

(continued)

TABLE A16. (continued)

Name of Operator	Location	No. of Lines A	No. of Lines O	Size	Comments
		TOGIAK DISTRICT			
Alaska-Far East, Corp.	Kulukak Bay M/V "C.B.I"	None			Herring sac roe and herring roe-on-kelp
Columbia Wards Fisheries, Inc.	(Nushagak)	None			Canned salmon and salmon roe. Frozen herring and capelin smelt and herring sac roe. Providing tender service for fishermen.
Ivanof, Alfred P.O. Box 7 Naknek, Alaska 99633	Kulukak Bay M/V "Good Hope	None			Herring roe-on-kelp
Kachemak Seafoods, Inc. P.O. Box 129 Togiak, Alaska 99678	Togiak Village	None			Canned and salted salmon. Salmon roe Salmon canned at "Morpac", Inc. in Cordova, Alaska.
McCormick, Jay P. Co. P.O. Box 59 Naknek, Alaska 99633	Kulukak Bay M/V "Independence"	None			Herring sac roe.
Peter Pan Seafoods	(Dillingham)	None			Canned salmon and salmon roe. Provid tender service for fishermen.
Queen Fisheries, Inc.	(Nushagak)	None			Canned salmon and salmon roe. Provid tender service for fishermen.
Togiak Fisheries, Inc. 614 Lowman Building Seattle, Washington	Togiak	1 1 1	1 1 1	½ lb. flat ¼ lb. flat 4 lb. can	Canned and frozen salmon. Salmon roe

(continued)

TABLE A16. (continued)

Name of Operator	Location	No. of Lines A	No. of Lines O	Size	Comments

SUMMARY

District:	No. of Lines[2/] 1 lb. tall Av.	1 lb. tall Op.	½ lb. flat Av.	½ lb. flat Op.	¼ lb. flat Av.	¼ lb. flat Op.	4 lb. can Av.	4 lb. can Op.
Naknek-Kvichak	14	1	9	1	0	0	0	0
Egegik	4	0	1	0	0	0	0	0
Ugashik	0	0	1	1	0	0	0	0
Nushagak	6	4	5	5	1	1	0	0
Togiak	0	0	1	1	1	1	1	1
Total	24	5	17	8	2	2	1	1

1/ Indicates operators with either a physical plant or processing facility in a district or those operators providing tender service for fishermen in districts away from the cannery.

2/ Av - indicates number of canning lines available for operation. Op - indicates number of canning lines actually operated.

Report to the Board of Fish and Game, Ketchikan, Alaska, December, 1974.

BRISTOL BAY HERRING FISHERY 1974

During its eight year history, the Bristol Bay herring fishery, which is centered in the Togiak district of Bristol Bay, has failed to develope into anything more than a small scale-marginal operation.

Although the fishery in 1974 produced a record harvest of herring roe-on-kelp, and a near record catch of herring, the low percentage egg recovery, high costs of operating in the area, minimal market for the "less desirable" rockweed kelp (Fucus sp.), and the incliment weather conditions usually associated with the spring fishery, all have resulted in the failure of a large self-sustaining fishery. Further, through aerial surveys conducted annually since 1967, considerable variation in population size has been noted, which has further reduced the potentiality of a successful commercial operation.

Four processors were envolved in the fishery this year, with the resulting roe-on-kelp production setting a record harvest since the inception of the fishery in 1968. A total of 125,600 pounds of roe-on-kelp was harvested valued at approximately $19,000 (Table 15). The success of this years operations was due primarily to the extremely mild weather enjoyed at Togiak this spring. Additionally, there was an increase in the number of operators, as well as fishermen, all of which resulted in an increase in the harvest on kelp.

All herring roe-on-kelp was hand picked with the help of rakes by 26 participating fishermen, most of whom were natives from the nearby villages of Togiak and Twin Hills. Fishermen were reported to have received .15¢ per pound for the kelp, and averaged over $700 for the seasons operation.

The "herring" operation was conducted by two operators, one with a Kodiak sized seiner, while the other operator bought herring from native fishermen caught with gill nets. The total harvest of 246,300 pounds was the second largest since the fishery began in 1967 (Table A15). The seining operation took 208,000 pounds, with the balance of the catch (38,300 pounds) coming from the gill net fleet. The value of the catch to the fishermen was estimated to be about $24,000.

The seine operator froze all herring in 40 pound blocks, which were later shipped to Japan where they were thawed, the females stripped of roe, and then the carcasses were either pickled or refrozen for human consumption. All but five tons were handled in this manner. The long freezing time (24-30 hours) required to freeze the herring, resulted in the loss of about five tons; these fish ere stripped of roe and the carcasses discarded at sea.

Most of the gill-net caught herring were stripped of roe and pickled, with the balance being discarded.

The seining operation proved to be the best method for taking herring, even though they experienced much difficutly with submerged rocks and deep water. After making numerous sets for herring, the seiner finally kept one of the many hauls of capelin smelt she caught. The total catch of 52,000 pounds of capelin (Mallotus villosus) was the first recorded in the Togiak area. These fish, like the herring, were frozen in 40 pound blocks and shipped to Japan to explore their marketability.

Three aerial surveys and one ground survey were conducted in late May to periodically observe herring and capelin spawning, fishery effort and herring and capelin abundance and distribution. The peak of herring spawning was May 21-24, and the relative abundance was the second largest since the annual surveilance flights began in 1966. Spawning capelin were observed for the first time on May 20 along beaches west of Togiak Bay.

Scales for age determination and associated sex, weight-length data were collected from 540 commercially caught herring. Although the data has yeat to be analyzed, from the size it appears that most of the herring were 3 to 7 years of age.

Continued surveilance and monitoring of this small fishery is planned for 1975.

APPENDIX B

TABLE B1. Final Bristol Bay sockeye salmon forecast and return, 1960-74.

Year	Forecast[1] F.R.I.[2]	Forecast[1] A.D.F.&G.[3]	Inshore Return[4]	% Return of Forecast F.R.I.	% Return of Forecast A.D.F.&G.
1960	46,000,000	34,400,000	36,409,000	79	106
61	18,700,000	43,600,000	18,116,000	97	42
62	9,400,000	19,900,000	10,423,000	111	52
63	15,300,000	8,600,000	6,905,000	45	80
64	19,300,000	17,400,000	10,938,000	57	63
65[5]	26,500,000	27,780,000	53,129,000	200	191
66	34,000,000	31,271,000	17,553,000	52	56
67	21,500,000	13,749,000	10,353,000	48	75
68	10,500,000	10,409,000	8,010,000	76	77
69	16,200,000	21,274,000	19,043,000	118	90
70	57,200,000	55,812,000	39,399,000	69	71
71	18,100,000	15,170,000	15,825,000	87	104
72[6]	6,600,000	9,744,000	5,377,000	81	55
73[6]	5,800,000	6,200,000	2,439,000	42	39
74[6]	3,900,000	5,004,000	11,004,000	282	220

1/ Japanese harvest was not subtracted from either forecast until 1965.
2/ Forecast by Fisheries Research Institute based on purse seine data gathered south of Adak. Not broken down by river system. Included North Peninula and Bristol Bay red salmon from 1960-64.
3/ Inshore river system forecast by the Department, except 1960, which was by F.R.I. Forecast based on cycle analysis, smolt production and ratio of 2-ocean to 3-ocean age return.
4/ Inshore Bristol Bay catch plus escapement.
5/ Togiak, Snake and Nushagak-Mulchatna included for the first time in forecast.
6/ Preliminary inshore return.

(Data Sources: 1 and 5).

APPENDIX TABLE B2. Comparison of inshore and high seas catches with total Bristol Bay sockeye salmon return, 1955-74 (in millions).

Year	Bristol Bay Catch	Japanese Catch of Bristol Bay Sockeye Salmon[1]	Total Catch	Bristol Bay Escapement	Bristol Bay Total Return[2]	% Japanese Catch is of Total Catch	% Japanese Catch is of Total Bristol Bay Run
1955	4.549	1.869	6.418	3.094	9.512	29.1	19.6
56	8.881	2.472	11.353	14.967	26.320	21.8	9.4
57	6.276	7.349	13.625	4.734	18.359	53.9	40.0
58	2.986	.377	3.363	2.783	6.146	11.2	6.1
59	4.608	.593	5.206	8.280	13.486	11.5	4.4
1960	13.705	3.727	17.432	22.704	40.136	21.4	9.3
61	11.914	6.129	18.043	6.202	24.245	33.9	25.3
62	4.718	.960	5.678	5.705	11.383	16.9	8.4
63	2.871	1.001	3.872	4.033	7.905	25.8	12.7
64	5.596	.314	5.910	5.341	11.251	5.3	2.8
1965	24.255	6.943	31.198	28.873	60.071	22.3	11.6
66	9.314	1.935	11.249	8.239	19.488	17.2	9.9
67	4.331	.922	5.253	6.022	11.275	17.6	8.2
68	2.793	.885	3.678	5.217	8.895	24.1	9.9
69	6.622	2.031	8.653	12.421	21.074	23.5	9.6
1970	20.721	3.968	24.689	18.679	43.368	16.1	9.2
71	9.584	2.049	11.633	6.241	17.874	17.6	11.5
72	2.416	1.303	3.719	2.984	6.703	35.0	19.4
73	.761	.844	1.605	1.683	3.288	52.6	25.7
74[3]	1.417	.532	1.949	9.587	11.536	27.3	4.6
20-Year Total	148.318	46.208	194.526	177.789	372.315		
20-Year Average	7.416	2.310	9.726	8.889	18.616	24.2	12.9

1/ Includes immature sockeye salmon caught in previous year, revised data exclusive of 1955.
2/ Includes Bristol Bay catch and escapement and Japanese catch.
3/ Preliminary inshore and high seas catches.

(Data Sources: 1, 2, 8, 11 and 12)

APPENDIX TABLE B3. Japanese high seas catches of sockeye salmon of Bristol Bay origin, 1952-74. (in thousands of fish)

Year	Matures[1]	Immatures[2]	Total
1955	1,869	41	1,910
1956	2,431	905	3,336
1957	6,444	11	6,455
1958	366	33	399
1959	565	87	652
1960	3,640	310	3,950
1961	5,819	127	5,946
1962	833	72	905
1963	929	60	989
1964	254	843	1,097
1965	6,100	404	6,504
1966	1,531	56	1,587
1967	866	21	887
1968	864	791	1,655
1969	1,240	517	1,757
1970	3,451	1,207	4,658
1971	842	593	1,435
1972	710	214	924
1973	630	257	887
1974[3]	275	568	843

1/ Includes the May and June 1-10 catches east of 170° E, the June 11-20 catches east of 175° E, and the June 21-30 catches east of 180°

2/ Includes sockeye salmon taken on high seas at times and in areas where immature Bristol Bay sockeye are in large majority. These are mostly .2 age fish that otherwise would be expected to mature and return to Bristol Bay as .3's. Includes July and August catches east of 170° E, and June 21-30 catches between 175° E and 180°.

3/ Preliminary

(Data Source: 11)

APPENDIX TABLE B 4. Bristol Bay license statistics, 1962-74.

	1962	1963	1964	1965	1966	1967	1968 1/
COMMERCIAL FISHING LICENSES:							
Resident	1,993	2,258	2,494	2,124	2,763	1,862	2,094
Non-resident	933	1,344	1,231	1,674	1,501	1,560	1,243
TOTAL	2,926	3,602	3,725	3,798	4,264	3,422	3,337
VESSEL LICENSES:							
Fishing Vessels							
Resident	1,031	1,209	1,161	1,164	1,217	1,184	1,158
Non-resident	386	581	605	648	883	776	672
	1,417	1,790	1,766	1,812	2,100	1,960	1,830
Scows							
Resident	30	33	15	17	20	8	9
Non-resident	19	32	35	57	43	53	20
TOTAL	49	65	50	74	63	61	29
GEAR LICENSES:							
Resident							
150 F. Drift Net	715	766	815	800	875	836	-
100 F. Drift Net	76	148	132	116	144	129	973
50 F. Set Net	619	773	793	868	826	686	722
TOTAL	1,410	1,687	1,740	1,784	1,845	1,651	1,695
Non-resident							
150 F. Drift Net	383	509	639	626	762	678	-
100 F. Drift Net	17	36	50	51	84	56	711
50 F. Set Net	20	116	137	125	139	144	117
TOTAL	420	661	826	802	985	878	828
Total Gear	1,830	2,348	2,566	2,586	2,830	2,529	2,523
Total Licenses Sold	6,222	7,805	8,107	8,270	9,257	7,972	7,719
Total License Revenues Collected	$87,725	$92,250	$113,359	$128,385	$146,265	$153,820	$127,085

1/ Maximum allowable licensed gear per licensee was 75 fathoms for drifters and 25 fathoms for set netters.

(Data Source: 2)

APPENDIX TABLE B4. (Continued)

	1969 2/	1970 3/	1971 3/	1972 3/	1973 3/	1974 3/
COMMERCIAL FISHING LICENSES:						
Resident	2,418	2,563	2,493	2,212	2,445	1,360
Non-resident	1,696	1,860	1,837	1,400	1,134	345
TOTAL	4,114	4,423	4,330	3,612	3,579	1,705
VESSEL LICENSES:						
Fishing Vessels						
Resident	1,241	1,288	1,228	1,104	1,150	722
Non-resident	749	916	864	744	675	228
TOTAL	1,990	2,204	2,092	1,848	1,825	950
Scows						
Resident	17	22	9	13	20	8
Non-resident	51	37	59	47	41	13
TOTAL	68	59	68	60	61	21
GEAR LICENSES:						
Resident						
150 F. Drift Net	883	901	867	850	647	572
100 F. Drift Net	227	156	167	143	1,394	170
50 F. Set Net	804	747	710	722	902	494
TOTAL	1,914	1,804	1,744	1,715	2,943	1,236
Non-resident						
150 F. Drift Net	721	746	770	724	370	197
100 F. Drift Net	97	78	61	47	792	25
50 F. Set Net	166	143	136	132	108	46
TOTAL	984	967	967	903	1,270	268
Total Gear	2,898	2,771	2,711	2,618	4,213	1,504
Total Licenses Sold	9,070	9,457	9,201	8,138	9,678	4,180
Total License Revenues Collected	$169,320	$179,985	$176,845	$152,780	$161,835	$61,535

2/ Maximum allowable licenses gear per licensee was 125 fathoms for drifters and 50 fathoms for set netters.
3/ Maximum allowable licensed gear per licensee was 150 fathoms for drifters and 50 fathoms for set netters.

(Data Source: 2)

APPENDIX TABLE B5. Bristol Bay sockeye salmon catch, by district, 1955-74.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1955	2,564,341	622,885	240,817	1,054,978	66,085	4,549,106
56	5,987,750	1,187,099	341,499	1,263,186	101,933	8,881,467
57	4,578,643	814,459	350,858	491,498	40,044	6,275,502
58	922,611	500,684	433,813	1,092,156	36,402	2,985,666
59	1,689,425	662,391	423,414	1,719,687	113,202	4,608,119
1960	9,847,848	1,446,884	752,634	1,517,988	139,648	13,705,002
61	8,166,983	2,686,076	357,223	511,483	192,161	11,913,926
62	2,281,284	638,862	243,159	1,461,766	92,945	4,718,016
63	957,902	695,582	188,695	842,744	186,213	2,871,136
64	2,243,701	1,103,935	576,768	1,420,941	250,775	5,596,120
1965	19,139,567	3,179,559	925,690	793,323	217,100	24,255,239
66	5,397,538	2,101,174	445,458	1,170,271	199,799	9,314,240
67	2,337,226	1,070,942	163,744	657,711	101,107	4,330,730
68	1,216,858	671,554	82,457	749,281	72,699	2,792,849
69	4,655,072	889,322	169,845	773,207	134,252	6,621,698
1970	17,803,805	1,403,509	171,541	1,188,534	153,377	20,720,766
71	5,857,378	1,306,682	954,068	1,256,799	209,060	9,583,987
72	1,102,365	839,820	17,440	381,347	75,261	2,416,233
73	168,249	221,337	3,920	272,093	95,723	761,322
74[1/]	602,821	161,986	2,255	511,656	138,636	1,417,354
20-Year Total	97,521,367	22,204,742	6,845,298	19,130,649	2,616,422	148,318,478
1955-64 Total	39,240,488	10,358,857	3,908,880	11,376,427	1,219,408	66,104,060
1965-74 Total	58,280,879	11,845,885	2,936,418	7,754,222	1,397,014	82,214,418
20-Year Average	4,876,068	1,110,237	342,265	956,532	130,821	7,415,924
1955-64 Average	3,924,049	1,035,886	390,888	1,137,643	121,941	6,610,406
1965-74 Average	5,828,088	1,184,589	293,642	755,422	139,701	8,221,442

1/ Preliminary

(Data Sources: 2, 8 and 12)

APPENDIX TABLE B6. Bristol Bay king salmon catch, by district, 1955-74.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1955	11,448	3,079	3,160	56,463	1,279	75,429
56	6,006	1,448	616	57,441	866	66,377
57	5,524	4,139	883	79,122	1,752	91,420
58	8,391	3,155	2,368	87,245	2,048	103,207
59	15,298	3,282	5,493	54,299	5,917	84,289
1960	17,778	2,991	2,209	81,416	7,309	111,703
61	10,206	3,266	3,483	60,953	10,748	88,656
62	8,816	2,070	2,929	61,283	8,949	84,047
63	4,713	2,355	3,030	45,979	6,192	62,269
64	12,902	3,618	3,694	108,606	10,716	139,536
1965	9,793	2,313	4,042	85,910	10,909	112,967
66	5,456	1,949	1,916	58,184	9,967	77,472
67	3,705	2,285	1,582	96,240	13,381	117,193
68	6,398	3,472	2,153	78,201	13,499	103,723
69	19,016	2,801	2,107	80,803	20,181	124,908
1970	19,037	3,765	1,498	87,547	28,664	140,511
71	10,254	2,187	779	82,769	27,026	123,015
72	2,262	1,097	166	46,045	19,976	69,546
73	951	1,475	292	30,470	10,856	44,044
74 1/	506	1,095	1,190	31,872	10,591	45,254
20-Year Total	178,460	51,842	43,590	1,370,848	220,826	1,865,566
1955-64 Total	101,082	29,403	27,865	692,807	55,776	906,933
1965-74 Total	77,378	22,439	15,725	678,041	165,050	958,633
20-Year Average	8,923	2,592	2,180	68,542	11,041	93,278
1955-64 Average	10,108	2,940	2,787	69,281	5,578	90,693
1965-74 Average	7,738	2,244	1,573	67,804	16,505	95,863

1/ Preliminary

(Data Sources: 2, 8 and 12)

APPENDIX TABLE B7. Bristol Bay chum salmon catch, by district, 1955-74.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1955	39,405	23,238	51,280	97,521	735	212,179
56	93,841	16,713	6,934	172,546	25,483	315,517
57	45,620	12,849	13,226	143,461	44,186	259,342
58	119,324	12,089	12,714	193,688	20,277	358,092
59	200,458	29,407	20,185	186,891	44,575	481,516
1960	304,286	62,837	51,415	642,099	255,320	1,315,957
61	182,398	57,429	30,928	267,176	190,001	727,932
62	176,712	23,053	22,040	290,633	165,107	677,545
63	100,408	14,807	10,554	167,161	77,167	370,097
64	153,644	23,496	30,688	463,309	131,371	802,508
1965	45,430	11,188	14,971	177,434	111,521	360,544
66	57,273	32,085	29,100	129,344	95,410	343,212
67	49,606	11,039	14,104	338,286	63,322	476,357
68	43,187	16,193	17,624	178,786	108,001	363,791
69	42,535	7,835	1,995	214,235	66,389	332,989
1970	120,279	43,854	17,969	435,033	100,711	717,846
71	151,465	27,073	14,506	360,015	123,847	676,906
72	115,737	42,172	9,689	310,126	178,885	656,609
73	123,610	23,034	6,092	336,331	195,431	648,498
74[1/]	34,784	3,841	2,853	154,074	79,271	274,823
20-Year Total	2,200,002	494,232	378,867	5,258,149	2,077,010	10,408,260
1955-64 Total	1,416,096	275,918	249,964	2,624,485	954,222	5,520,685
1965-74 Total	783,906	218,314	128,903	2,633,664	1,122,788	4,887,575
20-Year Average	110,000	24,712	18,943	262,907	103,851	520,413
1955-64 Average	141,610	27,592	24,996	262,449	95,422	552,069
1965-74 Average	78,391	21,831	12,890	263,366	112,279	488,758

1/ Preliminary

(Data Sources: 2, 8 and 12).

APPENDIX TABLE B8. Bristol Bay pink salmon catch, by district, 1955-74.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1955	-	-	-	9	-	9
56	511	4	-	91,457	-	91,972
57	2	24	-	3	-	29
58	19,666	492	-	1,113,794	1,590	1,135,542
59	25	6	78	137	55	301
1960	10,582	-	-	289,781	1,669	302,032
61	42	3	-	248	245	538
62	32,436	43	1	880,424	1,030	913,934
63	56	1	2	226	176	461
64	49,127	606	18	1,497,817	2,001	1,549,569
1965	514	-	-	95	91	700
66	142,221	8	11	2,337,066	13,545	2,492,851
67	20	-	-	265	829	1,114
68	218,732	211	-	1,705,150	11,743	1,935,836
69	205	5	1	263	1,396	1,870
1970	28,301	41	-	417,834	10,735	456,911
71	2	-	-	37	173	212
72	57,074	12	-	67,953	1,984	127,023
73	109	-	1	61	216	387
74[2/]	482,621	5,011	437	402,416	13,059	903,544
10-Year Total[1/]	1,041,271	6,428	467	8,803,692	57,356	9,909,214
1956-64 Total[1/]	112,322	1,145	19	3,873,273	6,290	3,993,049
1966-74 Total[1/]	928,949	5,283	448	4,930,419	51,066	5,916,165
10-Year Average[1/]	104,127	643	47	880,369	5,736	990,921
1956-64 Average[1/]	22,464	229	4	774,655	1,258	798,610
1966-74 Average[1/]	185,790	1,057	90	986,084	10,213	1,183,233

1/ Includes only even-numbered years.
2/ Preliminary

(Data Sources: 2, 8 and 12)

APPENDIX TABLE B9. Bristol Bay coho salmon catch, by district, 1955-74.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1955	123	4,208	2,777	13,920	-	21,028
56	887	8,573	-	53,999	-	63,459
57	1,619	4,056	-	61,454	1,616	68,745
58	3,624	4,370	746	127,088	-	135,828
59	40	1,388	1,397	12,779	1,731	17,335
1960	197	2,421	-	13,457	65	16,140
61	426	3,533	16	16,653	5	20,633
62	2,474	3,828	4,553	28,418	11	39,284
63	6,823	910	2,743	29,648	1,138	41,262
64	3,133	775	380	26,416	5,859	36,563
1965	3,053	945	713	2,851	521	8,083
66	4,096	1,932	533	11,517	15,864	33,942
67	1,175	1,044	1,901	31,517	18,159	53,796
68	7,357	6,507	5,771	48,867	24,872	93,374
69	17	5,548	9,292	37,799	28,720	81,376
1970	53	7,027	1,695	3,688	2,027	14,490
71	89	923	469	8,036	3,192	12,709
72	402	1,249	-	3,654	8,652	13,957
73	255	2,701	2,307	28,709	23,070	57,042
74 1/	555	1,036	2,627	12,896	24,855	41,969
20-Year Total	36,398	62,974	37,920	573,366	160,357	871,015
1955-64 Total	19,346	34,062	12,612	383,832	10,425	460,277
1965-74 Total	17,052	28,912	25,308	189,534	149,932	410,738
20-Year Average	1,820	3,149	1,896	28,668	8,018	43,551
1955-64 Average	1,935	3,406	1,261	38,383	1,043	46,028
1965-74 Average	1,705	2,891	2,531	18,953	14,993	41,074

1/ Preliminary

(Data Sources: 2, 8 and 12)

APPENDIX TABLE B10. Bristol Bay total salmon catch, by district, all species, 1955-74.

Year	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1955	2,615,317	653,410	298,034	1,222,891	68,099	4,857,751
56	6,088,995	1,213,837	349,049	1,638,629	128,282	9,418,792
57	4,631,408	835,527	364,967	775,538	87,598	6,695,038
58	1,073,616	520,790	449,641	2,613,971	60,317	4,718,335
59	1,905,246	696,474	450,567	1,973,793	165,480	5,191,560
1960	10,180,691	1,515,133	806,258	2,544,741	404,011	15,450,834
61	8,360,055	2,750,307	391,650	856,513	393,160	12,751,685
62	2,501,722	667,856	272,682	2,722,524	268,042	6,432,826
63	1,069,902	713,655	205,024	1,085,758	270,886	3,345,225
64	2,462,507	1,132,430	611,548	3,517,089	400,722	8,124,296
1965	19,198,357	3,194,005	945,416	1,059,613	340,142	24,737,533
66	5,606,584	2,137,148	477,018	3,706,382	334,585	12,261,717
67	2,391,732	1,085,310	181,331	1,124,019	196,798	4,979,190
68	1,492,532	697,937	108,005	2,760,285	230,814	5,289,573
69	4,716,845	905,511	183,240	1,106,307	250,938	7,162,841
1970	17,971,475	1,458,196	192,703	2,132,636	295,514	22,050,524
71	6,019,188	1,336,865	969,822	1,707,656	363,298	10,396,829
72	1,277,840	884,350	27,295	809,125	284,758	3,283,368
73	293,174	248,547	12,612	667,664	325,296	1,547,293
74[1/]	1,121,287	172,969	9,362	1,112,914	266,412	2,682,944
20-Year Total	100,978,473	22,820,257	7,306,224	35,138,048	5,135,152	171,378,154
1955-64 Total	40,889,459	10,699,419	4,199,420	18,951,447	2,246,597	76,986,342
1955-74 Total	60,089,014	12,120,838	3,106,804	16,186,601	2,888,555	94,391,812
20-Year Average	5,048,924	1,141,013	365,311	1,756,902	256,758	8,568,908
1955-64 Average	4,088,946	1,069,942	419,942	1,895,145	224,660	7,698,634
1965-74 Average	6,008,901	1,212,084	310,680	1,618,660	288,856	9,439,181

1/ Preliminary

(Data Sources: 2, 8 and 12)

APPENDIX TABLE B11. Bristol Bay fish prices paid to fishermen, by species, 1965-74 (in dollars).[1/]

Species	Price Per Fish				Price Per Pound					
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Independent Fishermen										
Sockeye	1.09	1.13	1.18	1.18	.24	.24	.26	.27	.35	.48
Kings										
Large	3.75	3.87	3.87	3.87				.20[2/]	.28[2/]	.33[2/]
Medium	1.87	1.94	1.94	1.94	.18	.18	.20[2/]			
Small	1.00	1.00	1.03	1.03						
Chums	.58	.60	.60	.60	.11	.11	.12	.12	.18	.30
Pinks	.32	.33	.33	.33	.11	.11	.12	.12	.18	.28
Cohos	1.09	1.13	1.18	1.18	.18	.18	.20[3/]	.20[3/]	.30[3/]	.41
Company Fishermen										
Sockeye	.67	.70	.73	.74	.14	.14	.16	.17	.22	.30
Kings										
Large	2.70	2.40	2.78	2.78						
Medium	(2 for 1)	1.20	1.39	1.39	.11	.11	.12	.13	.18	.21
Small		.64	.69	.69						
Chums	.37	.37	.37	.37	.06	.06	.08	.08	.11	.19
Pinks	-	.20	.17	.17	.06	.06	.08	.13	.11	.18
Cohos	.67	.70	.73	.74	.14	.14	.16	.13	.19	.26

1/ Prices rounded to nearest cent.
2/ Price is for fish to be canned. Price for fish to be frozen (caught before June 26) is .24 in 1971 and 1972. Price floated between .28 and .33 in 1973 (depending on operator and quality of fish). Price for fish to be frozen is .45 in 1974.
3/ Prior to July 19 price is .26 in 1971; .27 in 1972; .35 in 1973.

(Data Source: 1)

APPENDIX TABLE B12. Bristol Bay sockeye salmon escapements by district, 1955-74.

Year	Naknek-Kvichak[1/]	Egegik	Ugashik[2/]	Nushagak	Togiak[3/]	Total
1955	700,546	271,039	76,982	1,933,755	112,000	3,094,322
56	11,999,913	1,104,268	425,295	1,172,101	225,000	14,926,577
57	3,604,050	391,207	214,802	498,727	25,000	4,733,786
58	907,553	246,354	279,546	1,277,933	72,000	2,783,386
59	3,737,238	1,072,459	219,228	3,041,885	209,640	8,280,450
1960	16,698,911	1,798,764	2,341,400	1,673,258	192,010	22,704,343
61	4,146,963	701,538	366,439	859,633	127,454	6,202,027
62	3,394,580	1,027,482	274,026	937,698	71,552	5,705,338
63	1,447,422	997,602	397,004	1,063,856	127,596	4,033,480
64	2,555,424	849,576	482,770	1,339,004	114,674	5,341,448
1965	25,218,744	1,444,608	997,862	1,099,266	112,786	28,873,266
66	4,965,965	804,246	714,836	1,630,726	122,998	8,238,771
67	4,174,474	636,864	243,930	875,452	91,330	6,022,050
68	3,774,534	338,654	70,896	976,664	56,418	5,217,166
69	9,907,896	1,015,554	160,380	1,212,586	125,066	12,421,482
1970	14,844,868	919,734	735,024	1,966,156	212,896	18,678,678
71	3,510,448	634,014	529,752	1,353,382	213,242	6,240,838
72	1,747,668	546,402	79,428	528,650	81,970	2,984,118
73	618,510	328,842	38,988	581,323	114,930	1,682,593
74	5,889,394	1,275,630	61,854	2,256,486	103,492	9,586,856
20-Yr. Total	123,845,101	16,404,837	8,710,442	26,278,541	2,512,054	177,750,975
1955-64 Total	49,192,600	8,460,289	5,077,492	13,797,850	1,276,926	77,805,157
1965-74 Total	74,652,501	7,944,548	3,632,950	12,480,691	1,235,128	99,945,818
20-Yr. Av.[4/]	6,192,255	820,242	443,705	1,318,715	130,546	8,905,463
1955-64 Av.[4/]	4,919,260	846,029	516,984	1,382,733	133,380	7,798,386
1965-74 Av.[4/]	7,465,250	794,455	367,203	1,248,069	123,513	9,998,490

1/ 1955 to date includes Kvichak, Branch and Naknek Rivers.
2/ Includes Mother Goose system 1960-67.
3/ 1956-58 includes Togiak Lakes only. 1955 includes only Ongivinuck system and 1959 to date includes all Togiak tributaries. Kulukak system included 1961 to date.
4/ Averages appear slightly different due to ommission or addition of areas surveyed.
(Data Sources: 1, 5, 6, 7, 11 and 14)

APPENDIX TABLE B13. Catch and escapement of sockeye salmon in the Naknek-Kvichak district by river system, 1955-74.

Year	Escapement by River System				Catch	Total Run
	Kvichak[1]	Branch[2]	Naknek[3]	Total		
1955	250,546	171,500	278,500	700,546	2,564,341	3,264,887
56	9,443,318	784,000	1,772,595	11,999,913	5,987,750	17,987,663
57	2,842,810	126,595	634,645	3,604,050	4,578,643	8,182,693
58	534,785	94,650	278,118	907,553	922,611	1,830,164
59	680,000	825,431	2,231,807	3,737,238	1,689,425	5,426,663
1960	14,630,000	1,240,530	828,381	16,698,911	9,847,843	26,546,759
61	3,705,849	90,036	351,078	4,146,963	8,166,983	12,313,946
62	2,580,884	90,630	723,066	3,394,580	2,281,284	5,675,864
63	338,760	203,304	905,358	1,447,422	957,902	2,405,324
64	957,120	248,700	1,349,604	2,555,424	2,243,701	4,799,125
1965	24,325,926	175,020	717,798	25,218,744	19,139,567	44,358,311
66	3,775,184	174,336	1,016,445	4,965,965	5,397,538	10,363,503
67	3,216,208	202,626	755,640	4,174,474	2,337,226	6,511,700
68	2,557,440	193,872	1,023,222	3,774,534	1,216,858	4,991,392
69	8,394,204	182,490	1,331,202	9,907,896	4,655,072	14,562,968
1970	13,935,306	177,060	732,502	14,844,868	17,803,805	32,648,673
71	2,387,392	187,302	935,754	3,510,448	5,857,378	9,367,826
72	1,009,962	151,188	586,518	1,747,668	1,102,365	2,850,033
73	226,554	35,280	356,676	618,510	168,249	786,759
74	4,433,480	214,848	1,241,066	5,889,394	602,821[4]	6,492,215
20-Year Total	100,225,728	5,569,398	18,049,975	123,845,101	97,521,367	221,366,468
1955-64 Total	35,964,072	3,875,376	9,353,152	49,192,600	39,240,488	88,433,088
1965-74 Total	64,261,656	1,694,022	8,696,823	74,652,501	58,280,879	132,933,380
20-Year Average	5,011,286	278,470	902,499	6,192,255	4,876,068	11,068,323
1955-64 Average	3,596,407	387,538	935,315	4,919,260	3,924,049	8,843,309
1965-74 Average	6,426,166	169,402	869,682	7,465,250	5,828,088	13,293,338

1/ Tower Counts 1955-74.
2/ Aerial survey estimate 1955-56; tower count 1957-74.
3/ Weir count 1955-56; tower count 1957-74.
4/ Catches preliminary
(Data Sources: 1, 2, 5, 8, 11, 12 and 14)

APPENDIX TABLE B14. Catch and escapement of sockeye salmon in the Egegik and Ugashik districts by river system, 1955-74.

Year	Egegik District			Ugashik District				
	Escapement	Catch	Total Run	Escapement			Catch	Total Run
	Egegik[1]			Ugashik[2]	Mother Goose[3]	Total		
1955	271,039	622,885	893,924	76,982	-	76,982	240,817	317,799
56	1,104,268	1,187,099	2,291,367	425,295	-	425,295	341,499	766,794
57	391,207	814,459	1,205,666	214,802	-	214,802	350,858	565,660
58	246,354	500,684	747,038	279,546	-	279,546	433,813	713,359
59	1,072,459	662,391	1,734,850	219,228	-	219,228	423,414	642,642
1960	1,798,764	1,446,884	3,245,648	2,304,200	37,200	2,341,400	752,634	3,094,034
61	701,538	2,686,076	3,387,614	348,639	17,800	366,439	357,223	723,662
62	1,027,482	638,862	1,666,344	255,426	18,600	274,026	243,159	517,185
63	997,602	695,582	1,693,184	388,254	8,750	397,004	188,695	585,699
64	849,576	1,103,935	1,953,511	472,770	10,000	482,770	576,768	1,059,538
1965	1,444,608	3,179,559	4,624,167	996,612	1,250	997,862	925,690	1,923,552
66	804,246	2,101,174	2,905,420	704,436	10,400	714,836	445,458	1,160,294
67	636,864	1,070,942	1,707,806	238,830	5,100	243,930	163,744	407,674
68	338,654	671,554	1,010,208	70,896	-	70,896	82,457	153,353
69	1,015,554	889,322	1,904,876	160,380	-	160,380	169,845	330,225
1970	919,734	1,403,509	2,323,243	735,024	-	735,024	171,541	906,565
71	634,014	1,306,682	1,940,696	529,752	-	529,752	954,068	1,483,820
72	546,402	839,820	1,386,222	79,428	-	79,428	17,440	96,868
73	328,842	221,337	550,179	38,988	-	38,988	3,920	42,908
74	1,275,630	161,986[4]	1,437,616	61,854	-	61,854	2,255[4]	64,109
20-Year Total	16,404,837	22,204,742	38,609,579	8,601,342	109,100[5]	8,710,442	6,845,298	15,555,740
1955-64 Total	8,460,289	10,358,857	18,819,146	4,985,142	92,350	5,077,492	3,908,880	8,986,372
1965-74 Total	7,944,548	11,845,885	19,790,433	3,616,200	16,750	3,632,950	2,936,418	6,569,368
20-Year Average	820,242	1,110,237	1,930,479	430,067	13,638[5]	443,705	342,265	785,970
1955-64 Average	846,029	1,035,886	1,881,915	498,514	18,470	516,984	390,888	907,872
1965-74 Average	794,455	1,184,589	1,979,043	361,620	5,583	367,203	293,642	660,845

1/ Weir count 1955-56; tower count 1957-74.
2/ Weir count 1955-56; tower count 1957-74.
3/ Aerial survey estimate 1960-67.
4/ Catch figures preliminary.
5/ 8-year total and average only.
(Data Sources: 1, 2, 7, 8, 11, 12 and 14)

APPENDIX TABLE B15. Catch and escapement of sockeye salmon in the Nushagak district by river system, 1955-74.

Year	Escapement by River System						Catch	Total Run
	Wood[1]	Igushik[2]	Snake[3]	Nuyakuk[4]	Nushagak Mulchatna[5]	Total		
1955	1,382,755	500,000	30,000	16,000	5,000	1,933,755	1,054,978	2,988,733
56	773,101	400,000	4,000	30,000	5,000	1,212,101	1,263,186	2,475,287
57	288,727	130,000	3,000	67,000	10,000	498,727	491,498	990,225
58	960,455	107,478	9,000	196,000	5,000	1,277,933	1,092,156	2,370,089
59	2,209,266	643,808	139,950	48,861	-	3,041,885	1,719,687	4,761,572
1960	1,016,073	495,087	16,598	145,500	-	1,673,258	1,517,988	3,191,246
61	460,737	294,252	4,856	79,788	20,000	859,633	511,483	1,371,116
62	873,888	15,660	1,760	37,890	8,500	937,698	1,461,766	2,399,464
63	721,404	92,184	37,960	166,608	45,700	1,063,856	842,744	1,906,600
64	1,076,112	128,532	12,436	103,224	18,700	1,339,004	1,420,941	2,759,945
1965	675,156	180,840	12,000	203,070	28,200	1,099,266	793,323	1,892,589
66	1,208,682	206,360	4,500	161,010	50,174	1,630,726	1,170,271	2,800,997
67	515,772	281,772	11,000	20,250	46,658	875,452	657,711	1,533,163
68	649,344	194,508	4,100	96,642	32,070	976,664	749,281	1,725,945
69	604,338	512,328	9,300	69,828	16,792	1,212,586	773,207	1,985,793
1970	1,161,964	370,920	23,800	364,648	44,824	1,966,156	1,188,534	3,154,690
71	851,202	210,960	8,500	224,382	58,338	1,353,382	1,256,799	2,610,181
72	430,602	60,018	2,000	28,596	7,434	528,650	381,347	909,997
73	330,474	59,508	915	110,016	80,394	581,307	272,093	853,400
74	1,708,836	358,752	15,266	154,614	19,018	2,256,486	511,656[6]	2,768,142
20-Year Total	17,898,888	5,242,967	350,941	2,323,927	501,802	26,318,525	19,130,649	45,449,174
1955-64 Total	9,762,518	2,807,001	259,560	890,871	117,900	13,837,850	11,376,427	25,214,277
1965-74 Total	8,136,370	2,435,966	91,381	1,433,056	383,902	12,480,675	7,754,222	20,234,897
20-Year Average	894,944	262,148	17,547	116,196	27,878	1,318,713	956,532	2,275,245
1955-64 Average	976,252	280,700	25,956	89,087	14,738	1,386,733	1,137,643	2,524,376
1965-74 Average	813,637	243,597	9,138	143,306	38,390	1,248,068	775,422	2,023,490

1/ Tower counts 1955-74

2/ Aerial survey estimate 1955-57; tower count 1958-74.

3/ Aerial survey estimate 1955-59 and 1965-72; tower count 1960-64 and 1973-74.

(Data Sources: 1, 2, 5, 6, 8, 12 and 14)

4/ Aerial survey estimate 1955-58; tower count 1959-74.

5/ Aerial survey estimate 1955-58 and 1961-65; tower counts 1966-70 and 1973-74; tower not operated in 1971-72, escapement estimates based on ratio of Nuyakuk R. counts and historic Nush.-Mul. escapements.

6/ Preliminary catch figures.

APPENDIX TABLE B16. Catch and escapement of sockeye salmon in the Togiak district by river system, 1955-74.

Year	Escapement by River System				Catch	Total Run
	Togiak[1/]	Tributaries[2/]	Kulukak[3/]	Total		
1955	104,000	8,000	-	112,000	66,085	178,085
56	225,000	-	-	225,000	101,933	326,933
57	25,000	-	-	25,000	40,044	65,044
58	72,000	-	-	72,000	36,402	108,402
59	178,740	30,900	-	209,640	113,202	322,842
1960	162,810	29,200	-	192,010	139,648	331,658
61	95,454	26,800	5,200	127,454	192,161	319,615
62	47,352	14,600	9,600	71,552	92,945	164,497
63	102,396	13,800	11,400	127,596	186,213	313,809
64	95,574	9,300	9,800	114,674	250,775	365,449
1965	88,386	8,100	16,300	112,786	217,100	329,886
66	91,098	13,100	18,800	122,998	199,799	322,797
67	69,330	12,000	10,000	91,330	101,107	192,437
68	42,918	7,000	6,500	56,418	72,699	129,117
69	109,266	7,400	8,400	125,066	134,252	259,318
1970	192,096	10,800	10,000	212,896	153,377	366,273
71	190,842	9,400	13,000	213,242	209,060	422,302
72	74,070	4,500	3,400	81,970	75,261	157,231
73	95,730	11,200	8,000	114,930	95,723	210,653
74	82,992	15,600	4,900	103,492	138,636[4/]	242,128
20-Year Total	2,145,054	231,700	135,300	2,512,054	2,616,422	5,128,476
1955-64 Total	1,108,326	132,600	36,000	1,276,926	1,219,408	2,496,334
1965-74 Total	1,036,728	99,100	99,300	1,235,128	1,397,014	2,632,142
20-Year Average	107,253	13,629[5/]	9,664[6/]	130,546	130,821	261,367
1955-64 Average	110,833	18,943	9,000	138,776	121,941	260,717
1965-74 Average	103,673	9,910	9,930	123,513	139,701	263,214

1/ Aerial survey estimate 1955-59; tower count 1960-74.
2/ Aerial survey estimate 1955 and 1959-74.
3/ Aerial survey estimate 1961-74.
4/ Catch figures preliminary.
5/ 17 year average.
6/ 14 year average.

(Data Sources: 1, 2, 5, 8, 12 and 14)

APPENDIX TABLE B17. Inshore return of Bristol Bay sockeye salmon by district, 1955-74.

Year	Catch and Escapement by District					
	Naknek-Kvichak	Egegik	Ugashik	Nushagak	Togiak	Total
1955	3,264,887	893,924	317,799	2,988,733	178,085	7,643,428
56	17,987,663	2,291,367	766,794	2,435,287	326,933	23,808,044
57	8,182,693	1,205,666	565,660	990,225	65,044	11,009,288
58	1,830,164	747,038	713,359	2,370,089	108,402	5,769,052
59	5,426,663	1,734,850	642,642	4,761,572	322,842	12,888,569
1960	26,546,759	3,245,648	3,094,034	3,191,246	331,658	36,409,345
61	12,313,946	3,387,614	723,662	1,371,116	319,615	18,115,953
62	5,675,864	1,666,344	517,185	2,399,464	164,497	10,423,354
63	2,405,324	1,693,184	585,699	1,906,600	313,809	6,904,616
64	4,799,125	1,953,511	1,059,538	2,759,945	365,449	10,937,568
1965	44,358,311	4,624,167	1,923,552	1,892,589	329,886	53,128,505
66	10,363,503	2,905,420	1,160,294	2,800,997	322,797	17,553,011
67	6,511,700	1,707,806	407,674	1,533,163	192,437	10,352,780
68	4,991,392	1,010,208	153,353	1,725,945	129,117	8,010,015
69	14,562,968	1,904,876	330,225	1,985,793	259,318	19,043,180
1970	32,648,673	2,323,243	906,565	3,154,690	366,273	39,399,444
71	9,367,826	1,940,696	1,483,820	2,610,181	422,302	15,824,825
72	2,850,033	1,386,222	96,868	909,997	157,231	5,400,351
73	786,759	550,179	42,908	853,416	210,653	2,443,915
74 1/	6,492,215	1,437,616	64,109	2,768,142	242,128	11,004,210
20-Year Total	221,366,468	38,609,579	15,555,740	45,409,190	5,128,476	326,069,453
1955-64 Total	88,433,088	18,819,146	8,986,372	25,174,277	2,496,334	143,909,217
1965-74 Total	132,933,380	19,790,433	6,569,368	20,234,913	2,632,142	182,160,236
20-Year Average	11,068,323	1,930,479	785,970	2,275,247	261,367	16,321,386
1955-64 Average	8,843,309	1,881,915	907,872	2,520,376	255,321	14,408,793
1965-74 Average	13,293,338	1,979,043	660,845	2,023,491	263,214	18,219,931

1/ Catch data preliminary.

(Data Sources: 1, 2, 5, 6, 7, 8, 11, 12 and 14)

APPENDIX TABLE B18. Sex composition of Bristol Bay sockeye salmon catch and escapement by district, 1963-74. 1/

Year	1963		1964		1965	
	Percent		Percent		Percent	
District	Male	Female	Male	Female	Male	Female
NAKNEK-KVICHAK						
Kvichak R. Escapement	52.07	47.93	58.26	41.74	42.91	57.08
Branch R. Escapement	40.16	59.84	38.21	61.79	49.17	50.83
Naknek R. Escapement	45.46	54.54	41.66	58.34	48.44	51.56
Naknek-Kvichak Catch	47.97	52.03	53.85	46.15	61.36	38.64
System Total	46.94	53.06	50.49	49.51	50.99	49.01
EGEGIK						
Egegik R. Escapement	49.22	50.78	46.16	53.84	30.06	69.94
Egegik Catch	47.10	52.90	51.18	48.82	58.80	41.20
System Total	48.35	51.65	49.00	51.00	49.82	50.18
UGASHIK						
Ugashik R. Escapement	43.60	56.40	44.53	55.47	33.73	66.27
Ugashik Catch	51.80	48.20	59.73	40.27	60.32	39.68
System Total	46.26	53.74	52.88	47.12	46.54	53.46
NUSHAGAK						
Wood R. Escapement	42.60	57.40	38.69	61.31	38.35	61.65
Igushik R. Escapement	44.90	55.10	35.91	64.09	36.53	63.47
Nuyakuk R. Escapement	47.10	52.90	45.39	54.61	41.10	58.90
Snake R. Escapement	49.20	50.80	53.49	46.51	-	-
Nushagak Catch	41.96	58.04	49.90	50.10	41.96	58.04
Igushik Catch	-	-	47.90	52.10	39.73	60.27
System Total	42.98	57.02	44.69	55.31	39.94	60.06
TOGIAK						
Togiak R. Escapement	53.76	46.24	52.53	47.47	46.22	53.78
Togiak Catch	42.62	57.38	49.09	50.91	36.40	63.60
System Total	46.57	53.43	50.04	49.96	39.24	60.76
BRISTOL BAY						
Escapement	46.31	53.69	45.03	54.97	41.97	58.03
Catch	45.90	54.10	52.71	47.29	60.12	39.88
Total	46.14	53.86	48.98	51.02	50.27	49.73

(continued)

APPENDIX TABLE B18. (continued)

Year	1966		1967		1968	
	Percent		Percent		Percent	
District	Male	Female	Male	Female	Male	Female
NAKNEK-KVICHAK						
Kvichak R. Escapement	42.32	57.68	53.35	46.65	51.96	48.04
Branch R. Escapement	43.00	57.00	47.66	52.34	44.90	55.10
Naknek R. Escapement	44.26	55.74	46.99	53.01	55.20	44.80
Naknek-Kvichak Catch	35.94	64.06	47.23	52.77	48.44	51.56
System Total	39.20	60.80	48.90	51.10	51.49	48.51
EGEGIK						
Egegik R. Escapement	46.35	53.65	46.94	53.06	45.81	54.19
Egegik Catch	32.88	67.12	42.62	57.38	44.80	55.20
System Total	36.61	63.39	41.87	58.13	45.14	54.86
UGASHIK						
Ugashik R. Escapement	38.03	61.97	42.96	57.04	46.72	53.28
Ugashik Catch	38.31	61.69	44.37	55.63	51.29	48.71
System Total	38.14	61.86	43.53	56.47	49.18	50.82
NUSHAGAK						
Wood R. Escapement	39.96	60.04	41.41	58.59	47.07	52.93
Igushik R. Escapement	47.60	52.40	46.28	53.72	49.37	50.63
Nuyakuk R. Escapement	38.35	61.65	40.11	59.89	45.94	54.06
Nush-Mul. R. Escapement	-	-	-	-	53.55	46.45
Nushagak Catch	55.89	44.11	43.87	56.13	50.10	49.90
Igushik Catch	47.25	52.75	40.78	59.22	47.66	52.34
System Total	55.50	44.50	43.44	56.56	48.36	51.64
TOGIAK						
Togiak R. Escapement	37.50	62.50	43.96	56.04	55.63	44.37
Togiak Catch	31.28	68.72	35.69	64.31	37.33	62.67
System Total	33.23	66.77	38.50	61.50	44.12	55.88
BRISTOL BAY						
Escapement	42.26	57.74	48.64	51.36	51.09	48.91
Catch	37.72	62.28	43.73	56.27	47.59	52.41
Total	39.84	60.16	46.57	53.43	49.87	50.13

(continued)

APPENDIX TABLE B18. (continued)

Year	1969		1970		1971	
	Percent		Percent		Percent	
District	Male	Female	Male	Female	Male	Female
NAKNEK-KVICHAK						
Kvichak R. Escapement	52.30	47.70	39.50	60.50	39.31	60.69
Branch R. Escapement	44.72	55.28	45.52	54.48	46.86	53.14
Naknek R. Escapement	48.00	52.00	47.78	52.22	38.20	61.80
Naknek-Kvichak Catch	48.24	51.76	53.02	46.98	38.40	61.60
System Total	50.43	49.57	47.09	52.91	38.78	61.22
EGEGIK						
Egegik R. Escapement	42.78	57.22	28.14	71.86	51.60	48.40
Egegik Catch	47.27	52.73	56.04	43.96	44.40	55.60
System Total	44.88	55.12	44.99	55.01	46.75	53.25
UGASHIK						
Ugashik R. Escapement	47.98	52.02	56.72	43.28	45.64	54.36
Ugashik Catch	46.86	53.14	61.42	38.58	42.74	57.26
System Total	47.40	52.60	57.61	42.39	43.77	56.23
NUSHAGAK						
Wood R. Escapement	43.86	56.14	48.47	51.53	44.81	55.19
Igushik R. Escapement	44.07	55.93	39.15	60.85	43.62	56.38
Nuyakuk R. Escapement	47.57	52.43	35.24	64.76	37.34	62.66
Nush-Mulch. Escapement	49.56	50.44	37.48	62.52	53.25	46.75
Snake R. Escapement	-	-	48.47	51.53	44.71	55.29
Nushagak Catch	50.43	49.57	43.76	56.24	44.10	55.90
Igushik Catch	50.43	49.57	46.38	53.62	43.97	56.03
System Total	47.08	52.84	43.90	56.10	43.90	56.10
TOGIAK						
Togiak R. Escapement	50.45	49.55	44.55	55.45	40.04	59.96
Togiak Catch	56.88	43.12	45.48	54.52	37.24	62.76
System Total	53.99	46.01	44.96	55.04	38.66	61.34
BRISTOL BAY						
Escapement	50.26	49.74	40.53	59.47	42.14	57.86
Catch	48.43	51.57	52.71	47.29	40.37	59.63
Total	49.62	50.38	46.94	53.06	41.07	58.93

(continued)

APPENDIX TABLE B18. (continued)

Year	1972		1973		1974[2]	
	Percent		Percent		Percent	
District	Male	Female	Male	Female	Male	Female
NAKNEK-KVICHAK						
Kvichak R. Escapement	52.92	47.08	56.98	43.02		
Branch R. Escapement	47.08	52.92	52.27	47.73		
Naknek R. Escapement	47.23	52.77	42.97	57.03		
Naknek-Kvichak Catch	51.74	48.26	46.82	53.18		
System Total	50.98	49.02	48.25	51.75		
EGEGIK						
Egegik R. Escapement	56.65	43.35	48.64	51.36		
Egegik Catch	50.14	49.86	47.27	52.73		
System Total	52.71	47.29	48.09	51.91		
UGASHIK						
Ugashik R. Escapement	51.58	48.42	47.69	52.31		
Ugashik Catch	48.62	51.38	47.68	52.32		
System Total	51.05	48.95	47.69	52.31		
NUSHAGAK						
Wood R. Escapement	48.33	51.67	47.07	52.93		
Igushik R. Escapement	59.19	40.81	44.44	55.56		
Nuyakuk R. Escapement	51.32	48.68	38.87	61.13		
Nush-Mulch. Escapement	53.73	46.27	36.97	63.03		
Snake R. Escapement	47.75	52.25	57.20	42.40		
Nushagak Catch	54.61	45.39	47.84	52.16		
Igushik Catch	53.70	46.30	46.11	53.89		
System Total	54.38	45.62	47.61	52.39		
TOGIAK						
Togiak R. Escapement	40.54	59.46	51.01	48.99		
Togiak Catch	46.74	53.26	45.91	54.09		
System Total	43.67	56.33	48.46	51.54		
BRISTOL BAY						
Escapement	51.29	48.71	46.46	53.54		
Catch	51.42	48.58	47.12	52.88		
Total	51.35	48.65	46.66	53.34		

1/ Minor river escapements in Ugashik, Nushagak and Togiak districts were included in some years and not in others depending on adequacy of escapement data.
2/ Data not available at present.

(Data Source: 4)

APPENDIX TABLE B19. Age composition of sockeye salmon catch and escapement combined Naknek-Kvichak district, 1963-74.

Age Class		Percent by Year and Age Class											
		1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974 1/
3_1	0.2	-	0.02	-	-	-	-	0.02	-	0.03	-	-	-
3_2	1.1	0.07	0.22	0.04	-	0.22	0.68	0.20	0.03	0.09	-	0.16	0.04
4_1	0.3	-	0.03	+	-	0.01	-	-	0.02	0.13	-	0.09	-
4_2	1.2	30.96	56.30	1.32	2.66	5.32	47.09	66.07	4.09	8.95	16.30	17.35	4.03
4_3	2.1	0.31	2.91	0.01	0.06	0.18	2.46	3.63	0.04	0.10	-	1.43	0.87
5_2	1.3	10.01	14.24	2.32	9.37	6.45	9.76	3.19	2.37	32.08	22.90	25.62	9.53
5_3	2.2	25.13	21.32	94.96	22.51	69.60	25.53	22.64	91.36	43.60	35.92	15.89	79.98
6_2	1.4	0.09	0.01	-	-	0.04	0.03	-	-	+	0.02	0.01	0.07
6_3	2.3	33.23	4.78	1.34	65.29	17.99	13.87	4.16	2.02	14.97	24.81	39.32	5.45
6_4	3.2	0.17	0.07	+	0.09	0.07	0.44	0.07	0.05	0.03	-	-	0.02
7_3	2.4	0.01	-	-	-	0.01	-	-	-	-	-	0.12	0.01
7_4	3.3	0.02	0.10	0.01	0.02	0.11	0.14	0.02	0.02	0.02	0.05	0.01	-
Total Percent		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

1/ Preliminary data.

(Data Source: 4)

APPENDIX TABLE B20. Age composition of sockeye salmon catch and escapement combined, Egegik district, 1963-74.

Age Class		Percent by Year and Age Class											
		1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974 1/
3_2	1.1	-	0.02	-	-	0.03	+	-	-	-	-	0.02	-
4_1	0.3	-	-	0.05	-	0.03	-	-	0.04	0.08	-	-	-
4_2	1.2	3.74	21.89	1.57	0.68	0.82	10.53	4.99	9.49	2.70	2.39	1.66	3.77
4_3	2.1	0.09	1.06	-	0.01	0.10	0.54	1.83	0.01	0.09	-	0.14	
5_2	1.3	3.67	7.81	5.33	6.85	3.60	9.34	2.18	2.42	31.88	12.78	6.63	6.69
5_3	2.2	41.67	50.75	85.14	13.68	50.15	45.08	70.09	76.83	28.43	39.03	12.22	74.07
5_4	3.1	0.40	0.02	-	-	-	0.09	0.05	-	-	-	-	-
6_2	1.4	-	-	-	0.02	0.06	-	0.03	-	0.16	0.09	-	-
6_3	2.3	46.28	14.70	7.59	76.49	41.13	31.18	16.21	8.19	36.06	44.21	77.83	15.26
6_4	3.2	3.56	0.77	0.27	1.52	1.45	2.38	3.66	2.80	0.30	0.44	0.21	0.04
7_3	2.4	-	-	-	0.02	0.01	+	-	-	-	0.08	-	0.04
7_4	3.3	0.59	2.98	0.05	0.73	2.62	0.86	0.96	0.22	0.30	0.98	1.29	0.13
Total Percent		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

1/ Preliminary data.

(Data Source: 4)

APPENDIX TABLE B21. Age composition of sockeye salmon catch and escapement combined, Ugashik district, 1963-74.

Age Class		Percent by Year and Age Class											
		1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974 1/
3_1	0.2	-	-	-	-	-	-	0.16	-	-	-	-	-
3_2	1.1	-	0.04	0.02	-	0.10	0.01	0.10	-	-	0.03	-	-
4_1	0.3	-	0.03	0.11	0.11	-	0.12	-	0.14	-	-	-	-
4_2	1.2	2.63	61.37	11.06	6.01	2.97	17.30	23.74	70.65	3.28	12.09	7.30	7.00
4_3	2.1	-	1.00	0.11	0.16	0.03	5.71	0.47	-	-	-	0.24	1.23
5_2	1.3	15.42	3.35	11.55	37.74	28.68	11.32	3.00	3.27	81.94	35.82	11.19	6.17
5_3	2.2	66.47	28.21	71.99	19.13	41.46	50.32	68.23	24.33	5.57	36.63	27.01	81.48
6_2	1.4	0.28	-	0.01	0.02	0.23	0.03	0.03	-	0.06	0.30	-	-
6_3	2.3	14.67	5.84	5.15	36.76	26.37	14.94	4.19	1.58	9.04	15.13	54.01	3.91
6_4	3.2	0.53	-	-	0.03	0.03	0.13	0.05	0.03	0.05	-	0.25	-
7_3	2.4	-	-	-	-	0.06	0.05	-	-	-	-	-	0.21
7_4	3.3	-	0.16	-	0.04	0.07	0.07	0.03	-	0.06	-	-	-
Total Percent		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

1/ Preliminary data.

(Data Source: 4)

APPENDIX TABLE B22. Age composition of sockeye salmon catch and escapement combined, Nushagak district, 1963-74.

Age Class		Percent by Year and Age Class											
		1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974 1/
3_1	0.2	0.25	0.09	0.03	0.01	0.11	0.17	0.13	0.04	0.07	0.18	0.05	0.14
3_2	1.1	0.34	-	0.08	-	0.04	0.06	0.34	0.10	0.02	0.01	0.23	-
4_1	0.3	3.38	1.25	1.93	0.38	1.84	1.02	0.83	1.53	1.17	0.69	9.48	0.15
4_2	1.2	53.78	59.11	15.65	32.98	47.38	31.20	43.20	32.92	23.80	51.07	5.11	59.07
4_3	2.1	0.50	0.01	-	0.05	0.06	0.03	0.03	0.01	-	-	-	0.01
5_1	0.4	-	0.01	-	0.03	0.10	0.07	-	-	-	-	0.62	0.08
5_2	1.3	34.89	21.00	70.52	59.46	40.73	58.82	30.40	52.96	61.61	32.68	75.98	21.35
5_3	2.2	5.91	16.10	8.24	1.50	7.44	5.59	22.64	9.23	2.00	7.86	0.51	17.71
5_4	3.1	-	-	-	-	-	+	-	-	-	-	-	-
6_2	1.4	-	-	0.03	0.08	0.14	0.35	+	-	0.28	0.68	0.52	0.32
6_3	2.3	0.95	2.43	3.52	5.44	2.16	2.62	2.43	3.21	11.02	6.71	7.37	1.17
6_4	3.2	+	-	-	0.02	-	-	-	-	-	-	-	-
7_3	2.4	+	-	-	-	-	0.02	-	-	-	-	0.06	-
7_4	3.3	-	-	-	0.05	-	0.05	-	-	0.03	0.12	0.07	-
Total Percent		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

1/ Preliminary data.

(Data Source: 4)

APPENDIX TABLE B23. Age composition of sockeye salmon catch and escapement combined, Togiak district, 1963-74.

Age Class		Percent by Year and Age Class											
		1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974 1/
3_1	0.2	-	0.24	-	-	0.06	0.12	0.36	0.18	0.08	0.10	0.03	0.09
3_2	1.1	-	0.01	-	-	0.06	0.07	-	-	-	-	-	-
4_1	0.3	0.09	0.66	0.75	2.03	1.05	0.81	0.45	1.26	1.18	0.67	2.24	0.72
4_2	1.2	40.21	52.06	24.76	14.37	24.01	31.60	56.86	49.73	3.95	29.83	10.94	21.97
4_3	2.1	-	-	-	-	0.01	-	0.01	-	-	-	-	-
5_1	0.4	-	-	-	0.01	0.06	-	-	-	-	0.04	0.06	-
5_2	1.3	32.20	24.90	66.41	63.90	59.76	47.78	20.82	39.64	86.15	53.57	68.03	66.96
5_3	2.2	16.87	15.43	6.36	4.55	2.85	13.57	15.36	7.84	0.97	9.75	2.69	5.20
6_2	1.4	-	-	-	0.07	0.40	0.08	0.02	-	-	0.85	0.41	1.55
6_3	2.3	10.16	6.70	1.72	15.04	11.65	5.94	6.10	1.35	7.67	5.08	15.34	3.51
6_4	3.2	0.38	-	-	-	-	-	0.02	-	-	0.07	-	-
7_3	2.4	-	-	-	-	0.08	-	-	-	-	0.04	0.11	-
7_4	3.3	0.09	-	-	0.03	0.01	0.03	-	-	-	-	0.15	-
Total Percent		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

1/ Preliminary data.

(Data Source: 4)

APPENDIX TABLE B24. Age composition of sockeye salmon catch and escapement combined, Bristol Bay, 1963-74.

Age Class		Percent by Year and Age Class											
		1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974 1/
3_1	0.2	0.07	0.04	+	+	0.02	0.04	0.04	0.01	0.03	0.03	0.02	0.04
3_2	1.1	0.12	0.10	0.04	-	0.15	0.44	0.19	0.03	0.06	-	0.14	0.03
4_1	0.3	0.93	0.35	0.08	0.11	0.30	0.23	0.09	0.15	0.31	0.14	3.80	0.05
4_2	1.2	28.41	51.19	2.35	7.61	11.06	38.23	56.72	8.65	9.96	18.89	8.64	15.29
4_3	2.1	0.27	1.57	0.01	0.05	0.14	1.72	2.97	0.03	0.07	-	0.48	0.52
5_1	0.4	-	+	-	0.01	0.02	0.01	-	-	-	-	0.24	0.02
5_2	1.3	16.62	14.08	5.75	19.82	12.91	20.92	6.15	6.77	43.04	23.03	43.60	13.33
5_3	2.2	27.14	25.76	89.63	17.14	54.84	23.98	28.09	81.65	30.18	31.27	8.44	61.92
5_4	3.1	0.10	0.01	-	-	-	0.01	0.01	-	-	-	-	-
6_2	1.4	0.05	0.01	+	0.02	0.08	0.10	+	-	0.07	0.18	0.23	0.15
6_3	2.3	25.12	6.13	2.11	54.79	19.67	13.52	5.21	2.47	16.16	26.02	33.97	5.60
6_4	3.2	1.01	0.17	0.02	0.31	0.29	0.58	0.42	0.21	0.06	0.12	0.05	0.02
7_3	2.4	+	-	-	-	0.01	0.01	-	-	-	0.02	0.07	0.01
7_4	3.3	0.16	0.59	0.01	0.14	0.51	0.21	0.11	0.03	0.06	0.30	0.32	0.02
Total Percent		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

1/ Preliminary data.

(Data Source: 4)

APPENDIX TABLE B25. Kvichak River sockeye salmon smolt outmigration, 1955-74.

Year of Seaward Migration	Age I		Age II		24-Hour Index Points1/	Index Net Catch
	Percent	Mean Length in mm	Percent	Mean Length in mm		
1955	7.3	89.0	92.7	109.0	7.8	259,978
56	39.2	92.0	60.8	116.0	2.3	77,660
57	72.3	96.0	27.7	120.0	0.9	30,907
58	97.9	84.0	2.1	114.0	100.0	3,333,953
59	2.9	80.0	97.1	99.0	85.9	2,863,876
1960	10.0	91.0	90.0	108.0	18.4	614,003
61	72.2	91.8	27.8	117.2	1.1	36,164
62	94.0	82.0	6.0	110.0	36.1	1,203,000
63	2.7	83.3	97.3	98.3	126.9	4,229,431
64	22.0	87.0	78.0	108.0	61.8	2,061,586
1965	3.6	90.0	96.4	103.9	54.4	1,812,555
66	91.0	94.0	9.0	114.0	8.3	275,761
67	92.8	86.4	7.2	118.3	92.6	3,088,742
68	10.6	87.9	89.4	104.5	183.7	6,123,683
69	52.3	92.5	47.7	109.3	34.1	1,135,344
1970	38.3	90.8	61.7	110.2	14.5	483,638
71	93.5	89.9	6.5	111.0	57.8	1,927,984
72	0.9	80.0	99.1	106.0	42.6	1,421,104
73	3.6	85.6	96.4	97.1	37.2	1,241,715
742/	9.4	95.5	79.1	111.0	18.6	619,013
Average	40.8	88.4	58.6	109.5	49.3	1,642,005

1/ One index point = 33,340 smolts.
2/ Due to a significant outmigration of Age III smolt, the percents shown for Age 1 & II doesn't reflect the total number.

(Data Source: 1 and 5)

APPENDIX TABLE B26. Naknek River sockeye salmon smolt outmigration, 1956-74.

Year of Seaward Migration	Age I		Age II		Outmigration Estimate
	Percent	Mean Length in mm	Percent	Mean Length in mm	
1956	84.4	94.0	15.6	103.0	6,000,000
57	57.9	111.0	42.1	112.0	3,040,416
58	96.4	91.0	3.6	114.0	10,060,200
59	80.5	97.0	19.5	106.0	12,465,487
1960	53.1	99.0	46.6	109.0	6,691,377
61	77.8	103.0	22.2	113.0	5,612,647
62	48.6	105.0	51.4	112.0	16,462,216
63	40.6	98.0	58.5	114.0	14,900,855
64	31.1	97.0	68.8	110.0	7,228,339
1965	59.6	99.0	40.0	114.0	24,708,672
66	33.8	101.0	66.2	112.0	9,212,910
67	43.5	113.0	56.2	119.0	9,407,200
68	41.2	99.0	56.7	108.0	18,596,039
69	59.8	100.0	40.2	112.0	11,546,017
1970	55.2	100.0	44.8	114.0	3,652,864
71	74.0	102.0	26.0	120.0	10,974,144
72	6.5	98.0	93.5	110.0	11,035,892
73	26.8	106.0	72.2	114.0	2,712,150
74	18.9	104.0	81.0	118.0	819,369
Totals	989.7	1,917.0	905.1	2,134.0	185,126,794
Average	52.1[1/]	100.9	47.6[1/]	112.3	9,743,515

1/ Age III smolt amount to 0.3% in 1960; 0.9% in 1963, 0.1% in 1964; 0.4% in 1965, 0.3% in 1967; 2.1% in 1968; 0.0% in 1969; 0.0% in 1970; 0.0% in 1971; 0.0% in 1972; 1.0% in 1973; and 0.1% in 1974.

(Data Sources: 1 and 11)

APPENDIX TABLE B27. Ugashik River sockeye salmon smolt outmigration, 1956-74.[1/]

Year of Seaward Migration	Age I		Age II[6/]		Index[4/] Points	Index[5/] Net Catch	Outmigration Estimate
	Percent	Mean Length in mm	Percent	Mean Length in mm			
1956	11.0	-	89.0	-	-	-	-
57	4.0	-	96.0	-	-	-	-
58[3/]	98.1	93.0	1.9	112.0	100.0	301,232	11,659,905
59	87.3	90.0	12.7	120.0	36.5	109,982	2,887,002
60	59.7	90.0	39.3	108.0	75.1	226,317	5,503,646
1961	20.4	90.0	79.6	112.0	52.3	157,441	3,802,079
62	80.7	88.0	19.3	112.0	103.1	310,616	16,692,089
63	46.3	89.8	53.7	104.3	305.2	919,451	33,750,496
64	80.1	92.2	19.8	118.3	68.1	205,145	9,990,048
65	28.8	93.7	71.2	114.1	57.4	172,893	3,640,115
1966	-	-	-	-	-	-	-
67	52.5	87.5	47.5	113.1	30.9	93,068	5,137,063
68	93.1	92.8	6.9	112.6	145.9	439,587	42,205,912
69	59.7	97.4	40.3	121.2	21.3	63,999	5,048,673
70	57.5	97.0	42.5	124.8	-	-	1,304,722
1971	-	-	-	-	-	-	-
72	14.1	80.8	83.9	111.5	-	-	662,718
73	66.6	93.1	32.9	112.9	-	-	4,845.677
74	21.1	94.2	78.9	119.3	38.6	116,388	6,280,717
Total	881.0	1,369.5	815.4	1,716.1	1,034.4	3,116,119	153,410,862
Average	51.8	91.3	48.0	114.4	86.2	259,677	10,227,391

1/ Smolt project not operated in 1966 and 1971.
2/ Age and length are weighted by the index catch, 1956-1968 and 1974. Age and length are weighted by the random catch 1969-1973.
3/ Base year: assigned value of 100.0.
4/ One index point = 3,012.32 smolts.
5/ Three-hour index period, 10:00 p.m. to 1:00 a.m.
6/ 1.0% Age III in 1960; 0.1% Age III in 1963 and 1964; 2.0% Age III in 1972; and 0.5% Age III in 1973.

(Data Sources: 1 and 11)

APPENDIX TABLE B28. Wood River sockeye salmon smolt outmigration, 1951-74.[1/]

Year of Seaward Migration	Age I[2/] Percent	Age I[2/] Mean Length in mm	Age II[2/] Percent	Age II[2/] Mean Length in mm	Index Points	Two-Hour Index Net Catch
1951	80.0	91.0	20.0	-	9.9	16,809
52[3/]	99.0	87.0	1.0	-	100.0	170,034
53	95.3	86.0	4.7	103.0	296.1	503,444
54	95.8	87.0	4.2	107.0	438.6	745,832
55	98.0	85.0	2.0	102.0	221.7	377,032
56	78.4	82.0	21.6	95.0	329.3	559,932
1957	80.7	77.0	19.3	93.0	144.0	244,831
58	65.0	82.0	35.0	102.0	249.1	423,580
59	93.5	87.9	6.5	105.0	59.1	100,450
60	99.4	88.0	0.6	114.0	223.3	379,668
61	93.0	81.7	7.0	102.1	518.7	881,911
1962	86.0	80.1	14.0	97.6	177.6	301,892
63	84.3	82.6	15.7	102.1	88.9	151,206
64	98.8	83.7	1.2	104.2	568.6	966,807
65	92.0	85.5	8.0	106.1	217.7	370,112
66	94.3	77.1	5.7	101.2	147.1	250,049
1967	60.4	77.7	39.6	89.9	80.4	136,783[5/]
68	-	-	-	-	-	-
69	91.8	-	8.2	-	54.6	92,813[6/]
70	78.8	82.7	21.2	92.9	54.0	91,851[7/]
71-74[9/]	-	-	-	-	-	-
Total[8/]	1,433.5	1,343.6	166.5	1,434.3	3,789.7	6,443,589
Average[8/]	89.6	84.0	10.4	102.5	236.9	402,724

1/ Age and length weighted by index net catch.
2/ Age I-II indicates number winters in freshwater.
3/ Base year-one index point = 1,700.34 smolt.
4/ Full-fledged smolt program terminated after 1966 season. In 1967, 69 and 70 the program was operated in conjunction with the U.S. Bureau of Commercial Fisheries smolt marking program, and these data are not comparable with previously collected data.
5/ Index catch from June 16-27 inclusive.
6/ Index catch from June 14-July 1 inclusive.
7/ Index catch from June 6-22 inclusive.
8/ 16-year average, 1951-66
9/ Program not operated
(Data Sources: 1 and 5)

APPENDIX TABLE B29. Subsistence catch of salmon, for Bristol Bay, by district and species, 1965-74.[1/]

Year	Catch by Species					
	Sockeye	Kings	Chums	Pinks	Cohos	Total
			Naknek-Kvichak District			
1965	71,900	500	100	+	300	72,800
66	74,500	600	300	2,700	400	78,500
67	68,500	500	100	+	500	69,600
68	71,000	500	100	300	200	72,100
69	76,300	400	100	+	400	77,200
1970	108,200	300	700	100	200	109,500
71	66,400	200	+	+	100	66,700
72	52,200	400	400	700	100	53,800
73	41,600	600	300	+	500	43,000
74	102,600	1,000	1,100	1,600	200	106,500
Total	733,200	5,000	3,200	5,400	2,900	749,700
Average	73,300	500	300	1,100[2/]	300	75,000
			Egegik District			
1972	0	0	0	0	100	100
73	0	0	0	0	100	100
74	300	+	+	0	+	300
Total	300	+	+	0	200	500
Average	100	+	+	0[2/]	100	200
			Ugashik District			
1965[3/]	-	-	-	-	-	-
66	1,000	0	0	0	0	1,000
67	700	+	100	+	500	1,300
68	300	+	100	+	300	700
69	100	0	0	0	200	300
1970	1,400	+	+	0	+	1,400
71	300	0	+	0	100	400
72	200	100	100	+	300	700
73	200	+	100	+	600	900
74	200	100	+	+	500	800
Total	4,400	200	400	+	2,500	7,500
Average	500	+	+	+[2/]	300	800

(continued)

APPENDIX TABLE B29. (continued)

Year	Catch by Species: Sockeye	Kings	Chums	Pinks	Cohos	Total
			Nushagak District			
1965	47,500	4,600	18,400	200	5,400	76,100
66	23,600	3,700	6,000	4,900	2,400	40,600
67	34,900	3,700	14,000	800	4,000	57,400
68	30,000	6,600	8,600	5,800	1,900	52,900
69	27,700	7,100	8,200	100	7,100	50,200
1970	38,200	6,900	8,800	1,000	1,000	55,900
71	42,400	4,400	4,200	+	2,300	53,300
72	24,100	4,000	8,200	1,200	1,000	38,500
73	28,000	6,600	7,600	100	2,200	44,500
74	39,300	7,600	9,600	4,100	4,600	65,200
Total	335,700	55,200	93,600	18,200	31,900	534,600
Average	33,600	5,500	9,400	3,400[2/]	3,200	53,500
			Togiak District			
1965	4,600	100	1,600	100	2,200	8,600
1974	7,400	1,200	2,000	500	1,800	12,900
Total	12,000	1,300	3,600	600	4,000	21,500
Average	6,000	700	1,800	300[2/]	2,000	10,800
			TOTAL BRISTOL BAY			
1965	119,400	5,100	18,500	200	5,700	148,900
66	99,100	4,300	6,300	7,600	2,800	120,100
67	104,100	4,200	14,200	800	5,000	128,300
68	101,300	7,100	8,800	6,100	2,400	125,700
69	104,100	7,500	8,300	100	7,700	127,700
1970	147,800	7,200	9,500	1,100	1,200	166,800
71	109,100	4,600	4,200	+	2,500	120,400
72	76,500	4,500	8,700	1,900	1,400	93,000
73	69,800	7,200	8,000	100	3,300	88,400
74	149,800	9,900	12,700	6,200	7,100	185,700
Total	1,081,000	61,600	99,200	24,100	39,100	1,305,000
10 Yr. Av.	108,100	6,200	9,900	4,600[2/]	3,900	132,700

1/ Subsistence fishing is insignificant in the Egegik district while preliminary data indicates that the Togiak district catches fall in the range of 5-10,000 salmon.

2/ Even year Average. 3/ No permits issued (Data source: 1)

APPENDIX C

APPENDIX TABLE C1. Final Bristol Bay commercial catch by district and species, 1974.[1/2/]

District and River System	Catch by Species					
	Sockeye	Kings	Chums	Pinks	Cohos	Total
NAKNEK-KVICHAK						
Kvichak River	179,579					
Branch	2,675					
Naknek	355,909					
Total	538,163	480	41,347	508,534	916	1,089,440
EGEGIK	172,253	1,133	4,022	4,405	1,156	182,969
UGASHIK	2,151	1,200	2,334	340	4,055	10,080
NUSHAGAK						
Wood River	358,625					
Igushik River	53,355					
Snake River	69,182					
Nuyakuk River	7,863					
Nush-Mul System	21,546					
Total	510,571	32,053	157,941	413,613	12,569	1,126,747
TOGIAK	139,341	10,798	80,710	13,086	25,049	268,984
TOTAL	1,362,479	45,664	286,354	939,978	43,745	2,678,220
SPECIES PERCENT	50.87	1.71	10.69	35.10	1.63	100.00

1/ SOURCE: 1974 IBM catch summary (4-19-75).'

2/ Apportionment of the catch by river system in the Naknek-Kvichak and Nushagak districts is preliminary.

APPENDIX TABLE C2. Final Naknek-Kvichak commercial catch by species, period and amount of gear, 1974.[1]

Period	Time	Units of Gear		Catch by Species					
		Drift	Set	Sockeye	Kings	Chums	Pinks	Cohos	Total
6/10-15	5 days	4	0	6	50				56
6/17-22	5 days	14	7	1,317	110	63	361		1,851
7/ 5- 6	36[2]	102	57	136,165	26	1,281			137,472
7/ 7-13	7 days[2]	213	83	371,833	80	4,710	615		377,238
7/14-20	6 days 9 hours[2]	108	62	26,393	87	2,167	12,649	1	41,297
7/22-27	5 days	120	39	966	103	25,437	191,155	151	217,812
7/29-8/3	5 days	114	44	444	13	6,640	268,438	132	275,667
8/ 5-10	5 days	81	37	775	11	986	33,574	569	35,915
8/12-17	5 days	12	1	4		63	1,742	63	1,872
8/19 >		1	1	260					260
Totals				538,163	480	41,347	508,534	916	1,089,440
Percent of District Catch				49.40	.04	3.80	46.68	.08	100.00

1/ Source: 1974 IBM catch summary (4-19-75).

2/ Naknek section only.

APPENDIX TABLE C3. Final Egegik district catch by species, period, and amount of ge gear, 1974.[1/]

Period	Time	Units of Gear		Catch by Species					
		Drift	Set	Sockeye	Kings	Chums	Pinks	Cohos	Total
>6/8		7	5	47	136	5	42	10	240
6/10-15	5 days	10	7	159	214	6			379
6/17-22	5 days	28	18	3,663	729	210	55	5	4,662
7/ 5- 6	36 hrs.	42	23	69,292	3	599			69,894
7/ 7-13	7 days	63	36	88,174	32	2,223			90,429
7/14-20	6 days	32	16	9,206	16	531	174		9,927
7/22-27	5 days	7	10	1,464	1	289	3,108	129	4,991
7/29-8/3	5 days	7	4	248	2	141	1,026	512	1,929
8/ 5-10	5 days	1	2			18		25	43
8/12-17	5 days	1	2					61	61
8/19-24	5 days	1	1					83	83
8/26-31	5 days	1	1					204	204
9/ 2>		1	1					127	127
Totals				172,253	1,133	4,022	4,405	1,156	182,969
Percent of District Catch				94.14	.62	2.20	2.41	.63	100.00

1/ Source: 1974 IBM catch summary (4-19-75).

APPENDIX TABLE C4. Final Ugashik district commercial catch by species, period, and amount of gear, 1974.[1/]

Period	Time	Unit of Gear		Catch by Species					
		Drift	Set	Sockeye	Kings	Chums	Pinks	Cohos	Total
> 6/8	5 days	5			64				64
6/10-15	5 days	12	2		402				402
6/17-22	5 days	12	1	26	664				690
6/26-27	12 hrs.	4	2	64	60	9			133
7/22-27	5 days	10	7	1,607	4	880	47	15	2,553
7/29-8/3	5 days	10	7	392	3	1,087	257	309	2,048
8/ 5-10	5 days	2	4	42	3	172	29	476	722
8/12-17	5 days	6	4	17		156	4	1,032	1,209
8/19-24	5 days	2	4			16	1	468	485
8/26-31	5 days	4	4	2				1,030	1,032
9/ 2- 7	5 days	5	4	1		14	2	647	664
9/ 9 >			2					78	78
Totals				2,151	1,200	2,334	340	4,055	10,080
Percent of District Catch				21.34	11.91	23.15	3.37	40.23	100.00

1/ Source: 1974 IBM catch summary (4-19-75).

APPENDIX TABLE C5. Final Nushagak district commercial catch by species, period, and amount of gear, 1974.[1/]

Period	Time	Units of Gear		Catch by Species					
		Drift	Set	Sockeye	Kings	Chums	Pinks	Cohos	Total
> 6/1		18			404				404
6/ 3- 8	5 days	99			3,869				3,869
6/10-15	5 days	148	4	245	21,442	223	67	5	21,982
6/17-18	24 hrs.	62	3	569	429	7	16		1,021
7/ 4- 7[2/]	3 days	168	47	201,994	3,089	60,891	356	5	266,335
7/ 8-14	7 days	229	74	280,128	2,400	79,567	31,214	25	3931334
7/15-20	5 days	190	53	25,034	384	14,649	302,935	812	343,814
7/22-23	12 hrs.	136	32	1,763	18	1,827	54,986	314	58,908
7/29-8/3	5 days	70	31	674	15	707	22,890	5,378	29,664
8/ 5-10	5 days	12	17	103	3	68	958	5,619	6,751
8/12 >		7	1	61		2	191	411	665
Totals				510,571	32,053	157,941	413,613	12,569	1,126,747
Percent of District Catch				45.31	2.84	14.02	36.71	1.12	100.00

1/ Source: 1974 IBM catch summary (4-19-75).

2/ Igushik section closed for the first 24 hours of this period, then was opened to fishing until further notice.

APPENDIX TABLE C6. Final Togiak district commercial catch by species, period, and amount of gear, 1974.[1/][2/]

Period[3/]	Time	Units of Gear		Catch by Species					
		Drift	Set	Sockeye	Kings	Chums	Pinks	Cohos	Total
6/15		57	4	307	665	218			1,190
6/17-22	5 days	106	10	3,072	3,082	880	21		7,055
6/24-29	5 days	129	21	19,358	3,410	6,546	444	3	29,761
7/ 1- 6[4/]	5 days	137	17	36,167	1,608	15,309	1,133		54,217
7/ 8-13[5/]	5 days	79	11	24,370	1,592	13,641	1,110	1	40,714
7/15-20[6/]	5 days	68	1	9,389	108	9,628	1,048	7	20,180
7/22-27[7/]	5 days	103	13	29,411	202	22,489	6,713	14	58,829
7/29-8/3	5 days	97	14	11,148	97	7,858	2,303	74	21,480
8/ 5-10	5 days	68	9	4,027	15	2,650	211	837	7,740
8/12-17	5 days	60	10	1,542	7	1,308	78	3,104	6,039
8/19-24	5 days	40	8	411	2	113	16	6,340	6,882
8/26-31	5 days	50	5	132	3	58	9	10,707	10,909
9/ 2- 7	5 days	21				10		3,962	3,972
9/16		1		7	7	2			16
Totals				139,341	10,798	80,710	13,086	25,049	268,984
Percent of District Catch				51.80	4.01	30.01	4.87	9.31	100.00

1/ Summary of catch by section:

Section	Catch by Species					Total
	Sockeye	Kings	Chums	Pinks	Cohos	
Togiak	110,886	9,284	49,179	10,612	21,742	201,703
Kulukak	13,615	1,198	7,760	924	2,631	26,128
Osviak	4,202	139	7,174	514	330	12,359
Matogak	10,638	177	16,597	1,036	346	28,794
	139,341	10,798	80,710	13,086	25,049	268,984

2/ Source: 1974 IBM catch summary (4-19-75).
3/ Togiak River section open 4-days-per-week, while Osviak, Matogak, Cape Pierce and Kulukak sections open 5-days-per-week.
4/ Togiak River section open 2 days this week.
5/ Togiak River section open 3 days this week.
6/ Togiak River section closed this week.
7/ Togiak River section open 5 days this week.

APPENDIX TABLE C9. Final corrected Kvichak River sockeye salmon escapement, 1974.

Date	Daily Counts	Accumulative	% of Run
6/23	1,008	1,008	1
24	1,164	2,172	1
25	1,734	3,906	1
26	5,694	9,600	1
27	5,160	14,760	1
28	17,178	31,938	1
29	47,028	78,966	2
30	208,056	287,022	6
7/ 1	258,618	545,640	12
2	288,462	834,102	19
3	320,760	1,154,862	26
4	311,268	1,466,130	33
5	366,936	1,833,066	41
6	362,790	2,195,856	50
7	330,510	2,526,366	57
8	387,078	2,913,444	66
9	327,510	3,240,954	73
10	398,334	3,639,288	82
11	296,058	3,935,346	89
12	208,356	4,143,702	93
13	106,200	4,249,902	96
14	83,928	4,333,830	98
15	39,798	4,373,628	99
16	16,650	4,390,278	99
17	11,112	4,401,390	99
18	11,364	4,412,754	100
19	5,142	4,417,896	100
20	3,312	4,421,208	100
21	3,516	4,424,724	100
22	3,600	4,428,324	100
23	1,428	4,429,752	100
24	1,764	4,431,516	100
25	900	4,432,416	100
26	516	4,432,932	100
27	600	4,433,532	100
28	312	4,433,844	100
Totals	4,433,844	4,433,844	100

APPENDIX TABLE C10. Final corrected Naknek River sockeye salmon escapement, 1974.

Date	Daily Total	Accumulative	% of Run
6/23	786	786	1
24	996	1,782	1
25	22,644	24,426	2
26	10,350	34,776	3
27	19,176	53,952	4
28	44,658	98,610	8
29	75,942	174,552	14
30	143,550	318,102	26
7/ 1	128,664	446,766	36
2	144,912	591,678	48
3	117,972	709,650	57
4	189,186	898,836	72
5	175,410	1,074,246	87
6	62,796	1,137,042	92
7	21,426	1,158,468	93
8	26,484	1,184,952	95
9	27,426	1,212,378	98
10	7,728	1,220,106	98
11	4,314	1,224,420	99
12	3,534	1,227,954	99
13	3,360	1,231,314	99
14	2,232	1,233,546	99
15	1,842	1,235,338	100
16	1,452	1,236,840	100
17	1,020	1,237,860	100
18	1,404	1,239,264	100
19	900	1,240,164	100
20	324	1,240,488	100
21	402	1,240,890	100
22	168	1,241,058	100
Totals	1,241,058	1,241,058	100

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